



LEICESTERSHIRE COUNTY COUNCIL

# ANNUAL REPORT

*of the*

MEDICAL OFFICER OF HEALTH  
FOR THE YEAR

1937

J. A. FAIRER, M.D., D.P.H.  
COUNTY MEDICAL OFFICER





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(Based on model circular issued by the Ministry of Health)

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17, FRIAR LANE,  
LEICESTER.

MR. CHAIRMAN AND GENTLEMEN,

I have the honour to submit my Annual Report on the Public Health Services for the year 1937.

The appointment of Dr. K. Cowan as County Medical Officer of Health of Gloucestershire, and his consequent resignation, necessitated a change in the staff personnel. Dr. A. A. Lisney was promoted to the position of Deputy County Medical Officer and Dr. A. W. S. Thompson was appointed to fill the vacancy of Assistant Medical Officer of Health thus created.

The statistics for the year show, on the whole, a slight improvement on those for the previous year.

The infant mortality rate of 49 per thousand births shows a decrease on last year's rate of 52 and compares very favourably with that of 58 for England and Wales. It must be remembered, however, that in 1934 the county rate was as low as 41 and having once reached this low figure there is no reason why it should not be at least equalled again.

The birth rate continues to increase slightly, being 14.9 as compared with 14.8 for the previous year. The rate for the country as a whole during 1937 was also 14.9. The ratio of male to female births was 103.6 to 100 in 1937, as compared with 107.3 to 100 in 1936.

The death rate (11.89) again shows a slight increase on the previous year (11.28) though it compares favourably with the rate for England and Wales (12.4). The number of deaths from heart disease has fallen slightly during the year while those from cancer continue to rise. There is also a slight increase in the death rate from phthisis, the figures being 0.54 in 1937 and 0.53 in 1936.

Deaths from zymotic diseases numbered 48 in 1937 as compared with 59 during the previous year. During the year the diphtheria epidemic continued to persist though there was a slight fall in the number of cases notified. The marked decrease in the number of deaths from diphtheria is noteworthy, there being only 14 deaths as compared with 32 during the previous year.

This decrease in the diphtheria death rate, out of all proportion to the slight decrease in the number of cases notified, can be accounted for firstly by the earlier diagnosis and treatment of cases and secondly by immunisation against the disease which is being carried out not only by this Authority but also by general practitioners in several districts. Further details concerning diphtheria in the county and immunisation are given elsewhere in this report.

I should like to draw attention to the fact that in any district where my staff have undertaken immunisation the acceptances for treatment have approached one hundred per cent., and in a very short space of time after the immunisation had been completed the epidemic in those areas practically died out.

There has been a large increase in the number of cases of influenza during the year and the number of deaths in 1937 was 173 as compared with 40 during the previous year.

The most noteworthy event in connection with the maternity and child welfare services has been the coming into force of the Midwives Act, 1936, on August 1st, 1937. Although it is rather premature to express a definite opinion, it would appear that this legislation has been accepted throughout the county without any serious difficulties, though several minor modifications to the original scheme were found to be necessary. An outline of the scheme is included in this report.

I should like to call attention to the following special articles :—

“Diphtheria in a County Area,” by Dr. A. W. S. Thompson, and  
 “The First Five Years of the County Sanatorium and Isolation Hospital, Markfield, 1933-1937,” by Dr. H. Selby.

I am indebted to Dr. A. A. Lisney for the compilation of this report. It will be noted that there are some alterations in the layout and several additional sections.

Owing to serious illness Dr. Coward was absent from duty for several months. During this time his work was willingly shared by various members of the staff. I should like to place on record how thankful we are that Dr. Coward has made such a good recovery and at the same time thank all the members of my staff who undertook the extra work during his absence.

To the whole of the medical, sanitary and clerical staff I tender my grateful thanks for their zealous and enthusiastic support which has ensured the smooth running of all departments.

I also wish to say how much I appreciate the help and kind consideration which I have at all times received from the Chairman and all members of the Committee.

I have the honour to be, Mr. Chairman and Gentlemen,

Your obedient servant,

J. A. FAIRER,

May, 1938.

*County Medical Officer.*

**THE COUNTY PUBLIC HEALTH AND HOUSING COMMITTEE.  
1937.**

J. W. BLACK, Esq. (*Chairman*).

|   |  |
|---|--|
| ABBOTT, W.  | PARSONS, C. H.                                 |
| ARMSTRONG, A. E.  | PHILLIPS, Mrs. M. L.                           |
| BRIERS, A. J.   | PICKERING, C. H.                               |
| COWMAN, T.  | POCHIN, V. R. ( <i>ex-officio</i> )            |
| CRAWSHAW, The Rt. Hon. LORD                             | PRATT, J.                                      |
| FORSELL, J. T. ( <i>Vice-Chairman</i> )                 | RIPPIN, W. H.                                  |
| FULLER, B.  | TANDY, E. W.                                   |
| HOLMES, J. H.   | TAPP, W.                                       |
| HUBBARD, B.   | TOMPKINS, A. J.                                |
| MARTIN, Lt.-Col. R. E., C.M.G.<br>( <i>ex-officio</i> ) | WARNER, Mrs. E. M.<br>( <i>until 31-3-37</i> ) |
| MAIN, G. P.   | WILLETT, F.                                    |
| MARSH, Mrs. A. G.                                       | WILSON, C.                                     |
| MAWBY, G. H.  | WRIGHT, W. H.                                  |

**MATERNITY AND CHILD WELFARE COMMITTEE.**

This Committee consists of all the members of the Public Health and Housing Committee with the addition of the following ladies :—

Mrs. A. SHIRLEY ATKINS.  
Mrs. E. E. BUCKINGHAM.  
Mrs. B. EVERARD.  
Mrs. S. M. JOYCE.  
Mrs. G. SPENCER.  
Mrs. W. R. TUCKETT.

**STAFF.**

County Medical Officer :

School Medical Officer :

Administrative Officer for Tuberculosis, and Maternity and Child Welfare :

J. A. FAIRER, M.D., D.P.H.

Deputy County Medical Officer :

Deputy School Medical Officer :

K. COWAN, M.D., D.P.H. (*resigned 31/5/37*).

A. A. LISNEY, M.A., M.D., L.M., D.P.H.

Assistant County Medical Officer :

Senior Assistant School Medical Officer :

A. W. S. THOMPSON, M.B., Ch.B., D.P.H.

(*appointed 10/5/37*).

Chief Tuberculosis Officer :

N. A. COWARD, O.B.E., M.D., D.P.H.

Assistant Tuberculosis Officer :

S. W. LANE, M.B., B.S.

Assistant Infant Welfare Officer :

Assistant School Medical Officer :

MARY E. WESTON, M.B., B.S.

Assistant Infant Welfare Officer :

County Oculist :

CONSTANCE WALTERS, B.Sc., M.B., B.Ch.

Assistant School Medical Officers :

S. E. MURRAY, M.B., B.S.

J. B. DALTON, M.B., Ch.B.

Medical Superintendent, Markfield Sanatorium :

H. SELBY, M.B., B.S.

Assistant Resident Medical Officers, Markfield Sanatorium :

J. EGAN, M.B., B.Ch.

H. E. C. SUTTON, M.B., Ch.B. (*resigned 14/5/37*).

J. C. AITKEN, M.B., Ch.B. (*appointed 3/5/37*).

Chief Dental Surgeon :

P. ASHTON, L.D.S.

STAFF—*Continued.*

## Assistant Dental Surgeons :

A. E. WARD, L.D.S.  
 C. L. R. McLELLAN, L.D.S.  
 D. R. A. WILCOX, L.D.S.  
 L. D. SMITH, L.D.S.

## County Sanitary Inspector :

W. W. BAUM, M.R. San.I., F.S.I.A.

## Assistant County Sanitary Inspector :

E. F. RODWELL, Cert.S.I.B., M.S.I.A. (*appointed 1/10/37*).

**HEALTH VISITORS.**

‡\*Mrs. A. WARREN, S.R.N. (*Superintendent*).

|                                  |                              |
|----------------------------------|------------------------------|
| †Miss A. Addy, S.R.N.            | ‡Miss M. A. Dilworth, S.R.N. |
| Mrs. A. D. Antrobus, S.R.N.      | †Miss G. E. Earl, S.R.N.     |
| †Miss C. E. Bangham, S.R.N.      | †Miss E. Y. Feakin, S.R.N.   |
| Mrs. S. J. Bourne, S.R.N.        | Miss L. Fox, S.R.N.          |
| Mrs. P. Brunsdon, S.R.N.         | Miss T. M. Griffiths, S.R.N. |
| †*Miss G. E. Butler, S.R.N.      | *Miss K. A. Marsh, S.R.N.    |
| ( <i>Deputy Superintendent</i> ) | †‡Miss W. C. Porter, S.R.N.  |
| *Mrs. F. E. M. Cade.             | †Miss C. M. Ryder.           |
| †‡Miss G. I. Carryer, S.R.N.     | ( <i>Appointed 19/4/37</i> ) |
| †Miss V. L. Davies, S.R.N.       | Miss E. H. Seabrook.         |
| ( <i>Left 12/3/37</i> )          | Miss W. A. Simmons, S.R.N.   |
|                                  | Mrs. E. E. Wright, S.R.N.    |

Those marked \* hold the Certificate of Sanitary Inspector.

Those marked ‡ are Inspectors of Midwives.

Those marked † hold the Health Visitors' Certificate of the Ministry of Health.

All the above are fully trained nurses and hold the Certificate of the Central Midwives' Board. The Superintendent also holds the Child Welfare Workers' Certificate.

All the above are full-time officers of the County Council.



## ADDITIONAL OFFICERS.

### (1) District Medical Officers of Health.

#### URBAN.

| DISTRICT.         |      | NAME AND ADDRESS.                                       |
|-------------------|------|---|
| Ashby-de-la-Zouch | .... | Dr. T. Forsyth                      Hugglescote.        |
| Ashby Woulds      | .... | Dr. T. Forsyth                      Hugglescote.        |
| Coalville         | .... | Dr. A. Hamilton                      Coalville.         |
| Hinckley          | .... | Dr. J. H. Donnell                      Hinckley.        |
| Loughborough      | .... | Dr. R. C. Holderness                      Loughborough. |
| Market Harborough |      | Dr. C. T. Scott                      Market Harborough. |
| Melton Mowbray    | .... | Dr. J. E. O'Connor                      Kirby Muxloe.   |
| Oadby             | .... | Dr. J. E. O'Connor                      Kirby Muxloe.   |
| Shepshed          | .... | Dr. A. Segerdal                      Coalville.         |
| Wigston           | .... | Dr. J. E. O'Connor                      Kirby Muxloe.   |

#### RURAL.

| DISTRICT.         |      | NAME AND ADDRESS.  |
|-------------------|------|--|
| Ashby-de-la-Zouch | .... | Dr. T. Forsyth                      Hugglescote.           |
| Barrow-on-Soar    | .... | Dr. J. E. O'Connor                      Kirby Muxloe.      |
| Billesdon         | .... | Dr. J. E. O'Connor                      Kirby Muxloe.      |
| Blaby             | .... | Dr. J. E. O'Connor                      Kirby Muxloe.      |
| Castle Donington  | .... | Dr. T. M. Montford                      Castle Donington.  |
| Lutterworth       | .... | Dr. J. E. O'Connor                      Kirby Muxloe.      |
| Market Harborough | .... | Dr. J. S. Macbeth                      Kibworth Beauchamp. |
| Market Bosworth   | .... | Dr. T. G. Kelly                      Desford.              |
| Melton & Belvoir  | .... | Dr. J. E. O'Connor                      Kirby Muxloe.      |

### (2) District Medical Officers (Poor Law) and Public Vaccinators.

|                  |      |  |
|------------------|------|--|
| Bottesford       | .... | Dr. H. Royle, Bottesford, Notts. ( <i>res.</i> 31/7/37).<br>Dr. R. J. C. Hamilton, Bottesford, Notts.<br>( <i>A pp.</i> 1/8/37). |
| Croxtan Kerrial  | .... | Dr. R. H. Hudson, Woolsthorpe, Grantham.   |
| Waltham          | .... | Dr. M. W. Atkinson, Waltham-on-the-Wolds.<br>Melton Mowbray.   |
| Long Clawson.... | .... | Dr. G. C. B. Atkinson, Long Clawson, Melton<br>Mowbray ( <i>deceased</i> 13/2/38).   |
| Wymondham        | .... | Dr. H. S. Furness, Melton Mowbray.   |
| Asfordby         | .... | Dr. G. S. A. Bishop, Melton Mowbray.   |
| Melton Mowbray   | .... | Dr. G. S. A. Bishop, Melton Mowbray.   |
| Somerby          | .... | Dr. R. J. Mould, Somerby, Melton Mowbray.  |

|                   |      |  |
|-------------------|------|--|
| Loughborough      | .... | Dr. C. L. Lapper, 25 Victoria Street. Loughborough.  |
| Shepshed          | .... | Dr. R. M. Paterson, Brooklyn, Shepshed.  |
| Castle Donington  | .... | Dr. T. M. Montford, Castle Donington.  |
| Mountsorrel       | .... | Dr. J. S. Strachan, Mountsorrel, Loughborough.   |
| Barrow-on-Soar    | .... | Dr. J. S. Gray, Sileby, Loughborough.  |
| Sileby            | .... | Dr. J. S. Gray, Sileby, Loughborough.  |
| Syston            | .... | Dr. A. M. Macintosh, Barkby, Leicester.  |
| Billesdon         | .... | Dr. E. K. Williams, Billesdon, Leicester.  |
| Hallaton          | .... | Dr. P. Drummond, Hallaton, Market Harboro'.  |
| Market Harborough |      |  |
| No. 1             | .... | Dr. R. G. Keays, Market Harborough.  |
| No. 2             | .... | Dr. J. S. Macbeth, Kibworth Beauchamp, Leicester.  |
| Wigston           | .... | Dr. S. B. Couper, Blaby, Leicester.  |
| Enderby           | .... | Dr. W. R. M. Berridge, Enderby, Leicester.   |
| Lutterworth       | .... | Dr. T. W. Crowley, Lutterworth, Rugby.   |
| Peatling          | .... | Dr. E. Bromley, Peatling Magna, Leicester.   |
| Hinckley          | .... | Dr. H. Shirlaw, Hinckley.  |
| Market Bosworth   | .... | Dr. H. N. Keeling, Market Bosworth, Nuneaton.<br>( <i>Resigned 31/3/37</i> ).<br>Dr. G. D. Kelly, Market Bosworth, Nuneaton.<br>( <i>Appointed 1/4/37</i> ). |
| Ibstock           | .... | Dr. C. S. Agnew, Ibstock, Leicester.   |
| Ashby-de-la-Zouch | .... | Dr. H. H. Silley, Ashby-de-la-Zouch.   |
| Coalville         | .... | Dr. T. Forsyth, Hugglescote.   |
| Measham           | .... | Dr. J. R. Salmond, Appleby Magna, Burton-on-Trent.   |

## DISTRICT SANITARY INSPECTORS.

### URBAN DISTRICTS :

| DISTRICT.         | NAME AND ADDRESS.                                       |
|-------------------|---|
| Ashby-de-la-Zouch | .... Marlow, G. E., Council Offices, Ashby-de-la-Zouch. |
| Ashby Woulds      | .... Woodhall, P. C., Council Offices, Moira.           |
| Coalville         | .... Greenwood, B., Council Offices, Coalville.         |
| Hinckley          | .... Melson, E., Council Offices, Hinckley.             |
| Loughborough      | .... Bintcliffe, H., Council Offices, Loughborough.     |
| Market Harborough | .... Elliott, B. G., Council Offices, Market Harboro'.  |
| Melton Mowbray    | .... Jarvis, W., Council Offices, Melton Mowbray.       |
| Oadby             | .... Fryer, G. E., Council Offices, Oadby.              |
| Shepshed          | .... Jones, R. B., Council Offices, Shepshed.           |
| Wigston           | .... Ashbridge, F. B., Council Offices, Wigston.        |

**RURAL DISTRICTS :**

| DISTRICT.         |      | NAME AND ADDRESS.  |
|-------------------|------|--|
| Ashby-de-la-Zouch | .... | Cook, J. P., Rural District Council Offices,<br>Ashby-de-la-Zouch. |
| Barrow-on-Soar    | (1)  | Dean G. T., 133 Loughborough Road, Leicester.                      |
| „ „ „             | (2)  | Curtis, W. C. H., 133 Loughborough Road,<br>Leicester.             |
| Billesdon         | .... | Shimmin, S., 5 New Street, Leicester.                              |
| Blaby             | .... | Stevens, A. H., Council Offices, Narborough.                       |
| Castle Donington  | .... | Bagguley, H. B., Council Offices, Castle<br>Donington.             |
| Lutterworth       | .... | Berridge, G., Council Offices, Lutterworth.                        |
| Market Bosworth   | .... | Bailey, W., Council Offices, Market Bosworth.                      |
| Market Harborough | .... | Turner, W. R., Kibworth.   |
| Melton Mowbray    | .... | Hesford, L., Nottingham St., Melton Mowbray.                       |

**OTHER OFFICERS.****(3) Vaccination Officers.**

| DISTRICT.         |      | NAME AND ADDRESS.                  |
|-------------------|------|------------------------------------|
| Ashby-de-la-Zouch | .... | Baker, W. S., Ashby-de-la-Zouch.   |
| Billesdon         | .... | Fordham, W. J., Market Harborough. |
| Enderby           | .... | Collis, A., Narborough.            |
| Hinckley          | .... | Pendlebury, W. H., Hinckley.       |
| Loughborough      | .... | Milner, A. L., Loughborough.       |
| Lutterworth       | .... | Webb, H., Lutterworth.             |
| Market Harborough | .... | Fordham, W. J., Market Harborough. |
| Market Bosworth   | .... | Hunt, E. L., Ibstock.              |
| Measham           | .... | Leslie, D., Measham.               |
| Melton (North)    | .... | Cox, E. S., Melton Mowbray.        |
| Melton (South)    | .... | Lock, H. N., Melton Mowbray.       |
| Mountsorrel       | .... | Cannell, S. G., Quorn.             |
| Syston            | .... | Williams, A. E., Syston.           |
| Wigston           | .... | Farrar, W. W., South Wigston.      |

**(4) Veterinary Service.**

County Veterinary Officer :

Mr. G. DURRANT, B.V.Sc., M.R.C.V.S., D.V.H., 6 St. Martin's,  
Leicester.

District Veterinary Officers :

Mr. J. G. CROWHURST, M.R.C.V.S.

Mr. W. L. WILSON, M.R.C.V.S.

Mr. J. M. FRASER, M.R.C.V.S., D.V.S.M.

Mr. E. R. GREENWOOD, M.R.C.V.S.



The Offices of the Health Department are divided into four main sections :

**General, and Maternity and Child Welfare :**

Chief Clerk (H. Burditt) and seven assistants.

**Tuberculosis :**

Chief Clerk and Steward, Markfield Sanatorium.  
(H. Collington) and three assistants.

**School Medical Service :**

Chief Clerk (W. A. Thornton) and three assistants  
There are also five assistants to the Dental Surgeons.

**Laboratory :**

Chief Assistant (J. N. Graham) and two assistants.

---

## NATURAL AND SOCIAL CONDITIONS.

Agriculture, mining, quarrying and the industries in connection with boots, shoes and hosiery are the chief occupations of the population. The City of Leicester is noted for its industries while Loughborough and Hinckley are the largest industrial centres in the county. A large number of the workers employed in the city come from all parts of the county, travelling to and from work daily.

|   |      |      |         |      |      |         |            |
|---|------|------|---------|------|------|---------|------------|
| Area in acres                                   | .... | .... | 515,408 | .... | .... | { Urban | 56,860     |
|   |      |      |         |      |      | { Rural | 458,548    |
| Population (Census 1931)                        | .... | .... | ....    | .... | .... |         | 283,917    |
| „ Urban   |      |      | 133,227 |      |      |         |            |
| „ Rural   |      |      | 150,690 |      |      |         |            |
| „ Estimated resident (June, 1937)               | .... |      |         | .... | .... |         | 300,700    |
| „ Urban   |      |      | 141,300 |      |      |         |            |
| „ Rural   |      |      | 159,400 |      |      |         |            |
| Number of inhabited houses (1931)               | .... | .... |         | .... | .... |         | 71,543     |
| Number of families or separate occupiers (1931) |      |      |         | .... | .... |         | 73,438     |
| Reduced rateable value                          | .... | .... | ....    | .... | .... |         | £1,395,399 |
| Sum represented by a penny rate                 | .... | .... |         | .... | .... |         | £5,374     |

## EXTRACT FROM THE VITAL STATISTICS OF THE YEAR.

|             |                   | Total. | Males. | Females. |
|-------------|-------------------|--------|--------|----------|
| Live births | Legitimate ....   | 4,338  | 2,221  | 2,117    |
|             | Illegitimate .... | 150    | 63     | 87       |
|             | Total Births .... | 4,488  | 2,284  | 2,204    |

Birth rate per 1,000 of population, 14.9.

Still births : Total 170.

Rate per 1,000 total births : 36.5.

Deaths : Total 3,577. Death rate : 11.89.

Number of women dying in or in consequence of childbirth :

Sepsis 10. Other causes 4. Total 14.

Rate per 1,000 total births : 3.01.

Deaths of infants under one year of age per 1,000 live births :

Legitimate 48.6. Illegitimate 60.

Total Rate per 1,000, 49.

|                                |      |      |      |      |    |
|--------------------------------|------|------|------|------|----|
| Deaths from Measles (all ages) | .... | .... | .... | .... | 8  |
| „ „ Whooping Cough (all ages)  | .... | .... | .... | .... | 7  |
| „ „ Diarrhoea (under 2 years)  | .... | .... | .... | .... | 11 |

*Infant Mortality.*

The infant mortality rate for 1937 is returned as 49, which is an improvement on the figure of 52 recorded last year. The rate for England and Wales for the same period is 58.

**Infant Mortality.**

| Year | URBAN |      | RURAL |      | WHOLE COUNTY |      | Rate for England and Wales |
|------|-------|------|-------|------|--------------|------|----------------------------|
|      | No.   | Rate | No.   | Rate | No.          | Rate |                            |
| 1933 | 107   | 63   | 134   | 49   | 241          | 54   | 64                         |
| 1934 | 69    | 37   | 125   | 43   | 194          | 41   | 59                         |
| 1935 | 90    | 53   | 131   | 50   | 221          | 51   | 57                         |
| 1936 | 107   | 53   | 124   | 52   | 231          | 52   | 59                         |
| 1937 | 103   | 49   | 117   | 49   | 220          | 49   | 58                         |

*Deaths.*

The death rate of the county (11.89) shows an increase upon that for the preceding year (11.28). The death rate for England and Wales for 1937 is 12.4.

The total number of deaths in the county in 1937 was 3,577 as compared with 3,358 in 1936.

The seven chief causes of death with the corresponding percentages of total deaths were :—

|     |                     |      |      |
|-----|---------------------|------|------|
| (1) | Heart disease       | .... | 21.7 |
| (2) | Cancer....          | .... | 14.4 |
| (3) | Cerebral hæmorrhage |      | 6.5  |
| (4) | Influenza           | .... | 4.8  |
| (5) | Senility            | .... | 4.8  |
| (6) | Phthisis            | .... | 4.5  |
| (7) | Pneumonia           | .... | 4.1  |

The deaths from heart disease show a decrease both in the percentage relative to the number of deaths and in the actual death rate. The number of deaths which occurred from heart disease has decreased from 840 in 1936 to 778 in 1937.

There has been an increase in the number of deaths from cancer, the number in 1936 being 441 and 516 in 1937.

There has been a slight increase in the number of deaths from phthisis and the death rate has increased from 0.53 to 0.54. The actual increase in the number of deaths as compared with last year was five.

The number of deaths from pneumonia and congenital debility show a decrease and the death rates are 0.44 and 0.45 respectively as compared with 0.59 and 0.53 in 1936.

**Table of the Seven Chief Causes of Death.**

| The Seven Chief Causes of Death | URBAN |      | RURAL |      | WHOLE COUNTY |      | Percentage of Total Deaths |       |            |
|---------------------------------|-------|------|-------|------|--------------|------|----------------------------|-------|------------|
|                                 | No.   | Rate | No.   | Rate | No.          | Rate | Urban                      | Rural | Whole C'ty |
| Heart Disease                   | 356   | 2.52 | 422   | 2.65 | 778          | 2.59 | 21.5                       | 21.9  | 21.7       |
| Cancer ....                     | 245   | 1.73 | 271   | 1.70 | 516          | 1.72 | 14.8                       | 14.1  | 14.4       |
| Cerebral Hæmorrhage             | 111   | 0.79 | 123   | 0.67 | 234          | 0.78 | 6.7                        | 6.4   | 6.5        |
| Influenza ....                  | 74    | 0.52 | 99    | 0.62 | 173          | 0.58 | 4.5                        | 5.1   | 4.8        |
| Senility ....                   | 96    | 0.68 | 75    | 0.47 | 171          | 0.57 | 5.8                        | 3.9   | 4.8        |
| Phthisis ....                   | 82    | 0.58 | 80    | 0.50 | 162          | 0.54 | 5.0                        | 4.2   | 4.5        |
| Pneumonia ....                  | 78    | 0.55 | 70    | 0.44 | 148          | 0.49 | 4.7                        | 3.6   | 4.1        |

The following table shows the net number of registered deaths with corresponding rates (urban and rural) in Leicestershire, and England and Wales during the five years 1933-37 :—

### Deaths.

| Year | URBAN            |       | RURAL            |       | WHOLE COUNTY     |       | Rate for England and Wales |
|------|------------------|-------|------------------|-------|------------------|-------|----------------------------|
|      | Net No. Reg' red | Rate  | Net No. Reg' red | Rate  | Net No. Reg' red | Rate  |                            |
| 1933 | 1435             | 11.72 | 2069             | 11.08 | 3504             | 11.33 | 12.3                       |
| 1934 | 1253             | 10.13 | 1843             | 9.78  | 3096             | 9.92  | 11.8                       |
| 1935 | 1265             | 10.56 | 1986             | 11.01 | 3251             | 10.83 | 11.7                       |
| 1936 | 1511             | 11.26 | 1847             | 11.30 | 3358             | 11.28 | 12.1                       |
| 1937 | 1652             | 11.69 | 1925             | 12.08 | 3577             | 11.89 | 12.4                       |

During the whole of this period the death rate of the county has been considerably lower than that of England and Wales.

### Zymotic Deaths.

In 1937 the zymotic deaths numbered 48. This figure is a decrease of 11 upon that for the previous year.

| YEAR | URBAN |      | RURAL |      | WHOLE COUNTY |      |
|------|-------|------|-------|------|--------------|------|
|      | No.   | Rate | No.   | Rate | No.          | Rate |
| 1933 | 20    | 0.16 | 30    | 0.11 | 50           | 0.16 |
| 1934 | 23    | 0.19 | 29    | 0.14 | 52           | 0.17 |
| 1935 | 28    | 0.23 | 30    | 0.17 | 58           | 0.19 |
| 1936 | 34    | 0.25 | 25    | 0.15 | 59           | 0.20 |
| 1937 | 22    | 0.16 | 26    | 0.16 | 48           | 0.16 |

### Birth Rate.

The birth rate for 1937 is 14.9 as compared with 14.8 in 1936. The total number of live births was 4,488. Of the recorded births 2,284 were males and 2,204 were females, the ratio of male to female births being 103.6 to 100.



### Summary of Birth Statistics, Urban, Rural and Whole County.

| Estimated<br>Population | URBAN<br>141,300 |      | RURAL<br>159,400 |      | WHOLE<br>COUNTY<br>300,700 |      | ENGLAND<br>AND<br>WALES |
|-------------------------|------------------|------|------------------|------|----------------------------|------|-------------------------|
|                         | No.              | Rate | No.              | Rate | No.                        | Rate | Rate                    |
| Live Births             | 2118             | 15.0 | 2370             | 14.9 | 4488                       | 14.9 | 14.9                    |

## GENERAL PROVISION OF HEALTH SERVICES FOR THE AREA.

### LABORATORY FACILITIES.

The County Laboratory was established in January, 1920, and a circular letter was sent to all general practitioners offering them facilities for aids to diagnosis. With the exception of histological specimens and Wassermann tests, practically all bacteriological examinations are carried out. With regard to Wassermann tests, specimens are forwarded to the Leicester Royal Infirmary for examination. The services of the laboratory are free to doctors. Samples of water are examined for urban and rural districts at a nominal charge of 10/6 each, and these authorities send samples of milk at a charge of 2/6 each. Sputum examinations are paid for by the tuberculosis department at the rate of 2/6 each, and throat swabs from isolation hospitals are paid for at 2/- each by the Isolation Hospitals' Committee.

During 1920 the total number of examinations made was 2,449, but in 1937 this number had risen to 8,788. The laboratory accommodation consisting of three top rooms in the health department is now inadequate and it is hoped to move to more commodious and up-to-date premises at 8 St. Martin's, early in 1938.

### BACTERIOLOGICAL AND CHEMICAL WORK.

The following examinations were made in the County Laboratory during the year :—

|   |      |      |       |
|---|------|------|-------|
| Bacteriological milk examinations ....  | .... | .... | 3,227 |
| Swabs for diphtheria ....               | .... | .... | 3,197 |
| Sputa for tubercle bacilli ....         | .... | .... | 1,184 |
| Sewage and water analyses ....          | .... | .... | 394   |
| Urine, general and bacteriological .... | .... | .... | 186   |

|                                  |      |      |      |      |                   |
|----------------------------------|------|------|------|------|-------------------|
| Urine for tubercle bacilli       | .... | .... | .... | .... | 122               |
| *Wassermann tests                | .... | .... | .... | .... | 116               |
| Widal tests for typhoid fever    | .... | .... | .... | .... | 65                |
| Films for gonococci              | .... | .... | .... | .... | 32                |
| Hair for ringworm                | .... | .... | .... | .... | 21                |
| Blood counts                     | .... | .... | .... | .... | 36                |
| Fæces for bacillus typhosus      | .... | .... | .... | .... | 50                |
| Urine for bacillus typhosus      | .... | .... | .... | .... | 46                |
| Milk for fat content             | .... | .... | .... | .... | 13                |
| Miscellaneous                    | .... | .... | .... | .... | 40                |
| Swabs for hæmolytic streptococci | .... | .... | .... | .... | 59                |
|                                  |      |      |      |      | <hr/> 8,788 <hr/> |

\* Samples for Wassermann reaction are sent to the Leicester Royal Infirmary.

The total number of examinations made was 1,083 more than last year, and is the highest during the eighteen years the laboratory has been in existence.

There was an increase of 601 in the number of swabs examined for diphtheria, although swabs from patients in the isolation hospital at Markfield are now examined there.

The samples of milk from urban and rural districts have decreased in number during the last three years, mainly due to the influx of samples from accredited producers and those desiring accredited licences. In spite of this fact the total number of samples examined was 3,227, which is an increase of 457 on last year's figure.

The laboratory provides an income, as the examination of throat swabs from isolation hospitals, sputa for tuberculosis, water samples, and milk samples from the urban and rural districts are paid for by the authorities and committees concerned. The total amount received during the year was approximately £440.

#### *Milk Examinations.*

The number of these examinations has steadily increased from 695 in the year 1925 to 3,227 in 1937.

The 3,227 samples examined this year were received from the following sources :—

|          |   |      |      |       |
|----------|---|------|------|-------|
| "D."     | Urban and rural districts               | .... | .... | 736   |
| "A."     | Accredited producers                    | .... | .... | 1,325 |
| "S."     | Supplies to school children             | .... | .... | 538   |
| "A.R."   | Prospective accredited producers        | .... | .... | 394   |
| "P.L.I." | Poor Law Institutions                   | .... | .... | 120   |
| "M."     | Miscellaneous                           | .... | .... | 37    |
| "T.T."   | Tuberculin tested producers             | .... | .... | 74    |
| "A.T.T." | Prospective Tuberculin tested producers |      |      | 3     |

With the exception of 166 which were pasteurised, all were examined by the methylene blue test and for the presence of coliform bacillus in 1/100 part of a millilitre (cubic centimetre).

The following table shows the results of the examinations :—

| Class of milk | Satisfactory on both tests | Not satisfactory on both tests | Not satisfactory on Methylene B. test | Not satisfactory on Coliform test | TOTAL |
|---------------|----------------------------|--------------------------------|---------------------------------------|-----------------------------------|-------|
| "T.T." ....   | 63 (85.1%)                 | 4 (5.4%)                       | 5 (6.8%)                              | 2 (2.7%)                          | 74    |
| "A.T.T." .... | 3 (100.0%)                 | —                              | —                                     | —                                 | 3     |
| "A" ....      | 1070 (80.7%)               | 118 (8.9%)                     | 73 (4.6%)                             | 64 (4.8%)                         | 1325  |
| "A.R." ....   | 329 (83.5%)                | 21 (5.3%)                      | 18 (4.6%)                             | 26 (6.6%)                         | 394   |
| "D" ....      | 496 (69.7%)                | 62 (8.7%)                      | 28 (3.9%)                             | 126 (17.7%)                       | 712   |
| "S" ....      | 329 (82.9%)                | 17 (4.3%)                      | 15 (3.7%)                             | 36 (9.1%)                         | 397   |
| "P.L.I." .... | 93 (77.5%)                 | 8 (6.7%)                       | 8 (6.7%)                              | 11 (9.1%)                         | 120   |
| "M" ....      | 27 (75.0%)                 | 4 (11.1%)                      | 1 (2.8%)                              | 4 (11.1%)                         | 36    |

Of the district supplies, 24 were pasteurised, as were 141 of the school supplies and one of the miscellaneous samples. It must be pointed out that eight of the eleven unsatisfactory samples of T.T. milk were from one producer, seven of them being taken during the investigation of the cause of the trouble—otherwise the percentage of satisfactory samples would have been higher.

The samples from urban and rural districts were of non-designated milk, taken by the sanitary inspectors, some at the producers' premises but mostly in course of delivery to the consumers. The collection and examination of these samples was in continuance of a scheme which has



been in existence since 1925, being an effort to improve the milk supply of the county generally. Detailed reports on this scheme have been published from time to time.

An analysis of these examinations was made to find the effect of temperature on the results, and a period embracing both warm and cold weather was taken, during which 2,285 samples were examined. Of these, 1,536 were examined on days when the atmospheric shade temperature was below 60° F., and 749 when it was above. This period extended from the 1st January to the 31st October, and it was found that when the temperature was below 60° F. the percentage of unsatisfactory samples was 17.2 and when above, 33.8, a rise of approximately 100 per cent.

All the samples were, up to the 31st December, 1936, examined by the plate count method, but from the 1st January, 1937, the methylene blue test was substituted.

There has been some objection to the latter method chiefly in that it does not convey information as to whether there was improvement or deterioration. In consequence of this, from the 1st January, 1938, these samples will be "graded." The following is an extract from a circular letter sent to all urban and rural districts in the county. From the 1st January, 1938, reports on samples of non-designated milk will be based on Barthel and Orla-Jensen's system of grading, *i.e.*, Grade I., II., III. and IV.

The samples will be graded as follows :—

- Grade I. The sample reaches the accredited milk standard *i.e.*, retains the methylene blue coloration for  $4\frac{1}{2}$  hours (1st May to 31st October), and  $5\frac{1}{2}$  hours (1st November to 30th April).
- Grade II. The sample retains the methylene blue coloration for at least 2 hours but less than the time demanded for accredited milk.
- Grade III. The sample retains the methylene blue coloration for more than 30 minutes but less than 2 hours.
- Grade IV. The sample retains the methylene blue coloration for less than 30 minutes.

It is suggested that the presence of the coliform bacillus in one hundredth of a c.c. of milk in more than one tube out of three shall automatically place the sample one grade lower.

By adopting these grades, which it must be understood are arbitrary and not provided for by any legislation, it should assist producers, as it will inform them if their samples are deteriorating, improving, or remaining stationary.

### *Diphtheria.*

The 3,197 swabs for diphtheria of which 406 were positive were received from the following sources :—

|                       |      |      |      |      |       |
|-----------------------|------|------|------|------|-------|
| General practitioners | .... | .... | .... | .... | 1,648 |
| Isolation hospitals   | .... | .... | .... | .... | 1,205 |
| School children       | .... | .... | .... | .... | 344   |

All patients in the isolation hospitals must have at least three successive negative swabs before being discharged.

### *Tuberculosis.*

The 1,184 specimens of sputa examined, 222 of which were positive were received from the following :—

|                               |      |      |      |      |     |
|-------------------------------|------|------|------|------|-----|
| Tuberculosis medical officers | .... | .... | .... | .... | 480 |
| General practitioners         | .... | .... | .... | .... | 704 |

In addition to these specimens of sputa 122 samples of urine were examined for T.B., and 11 of them were positive.

### *Sewage and Water Analysis.*

The number of sewage and water samples examined (394) shows an increase of 42. The samples were of drinking supplies, sewage effluents and rivers and streams containing effluents.

### *Hair for Ringworm.*

Practically all the specimens, 4 of which were positive, were received from the school medical officers and nurses. Some of the children attended the laboratory for this examination.

### *Typhoid and Para-typhoid Fevers.*

There was a decrease in the number of specimens of blood received for diagnosis of these diseases, the number being 65 against 96 last year. Three of them were positive.

There were also 96 specimens of urine and fæces examined to ensure that patients were free from infection before being discharged from hospital.

*Venereal Diseases.*

In connection with venereal diseases 32 examinations of pathological material were made. They were all films for gonococci and were received from general practitioners. The 116 specimens of blood for Wassermann reaction were sent to the Leicester Royal Infirmary. These were also from general practitioners.

*General.*

The following table shows the districts in the county from which the various specimens were received :—

| URBAN DISTRICTS.           |      |     | RURAL DISTRICTS.         |      |       |
|----------------------------|------|-----|--------------------------|------|-------|
| Ashby-de-la-Zouch          | .... | 100 | Ashby-de-la-Zouch        | .... | 485   |
| Ashby Woulds               | .... | 32  | Barrow-on-Soar           | .... | 1,044 |
| Coalville                  | .... | 356 | Billesdon                | .... | 273   |
| Hinckley                   | .... | 730 | Blaby                    | .... | 646   |
| Loughboro' Municipal Boro' |      | 477 | Castle Donington         | .... | 251   |
| Market Harborough          | .... | 164 | Lutterworth              | .... | 234   |
| Melton Mowbray             | .... | 267 | Market Bosworth          | .... | 725   |
| Oadby                      | .... | 91  | Market Harborough        | .... | 277   |
| Shepshed                   | .... | 551 | Melton Mowbray & Belvoir |      | 414   |
| Wigston                    | .... | 239 |                          |      |       |

Specimens were also received from :—

|                                      |      |     |
|--------------------------------------|------|-----|
| Markfield Sanatorium                 | .... | 195 |
| Hinckley Isolation Hospital          |      | 370 |
| Blaby Isolation Hospital             | .... | 478 |
| Melton Mowbray Isolation<br>Hospital | .... | 389 |

## AMBULANCE FACILITIES.

Ambulance facilities available in the county are as follows :—

*Infectious Diseases.*

Ambulances are maintained at the Blaby and Melton Mowbray Isolation Hospitals ; the Blaby ambulance conveys cases to the Markfield, Blaby and Hinckley Isolation Hospitals, and that at Melton Mowbray deals with the district served by the Melton Isolation Hospital.

*Maternity and Tuberculosis Cases.*

The transport of emergency maternity and tuberculosis cases is arranged with the St. John Ambulance Brigade, the payment of charges being guaranteed by the appropriate committee.

An arrangement is in force with the Rugby Municipal Borough Council whereby the County Council guarantees the cost of the ambulance where a Leicestershire maternity or tuberculosis case is required to be admitted in emergency to a Rugby Hospital.

Application for the recovery of the charges is made subsequently to the patients.

An ambulance stationed at Markfield Sanatorium is used solely for the removal of cases of tuberculosis.

### NURSING IN THE HOME.

Where general nursing in the home is necessary, provision is made by the County and district nursing associations, whose nurses undertake the work.

Tuberculosis patients who require home nursing receive such facilities from the district nursing associations, who are supervised on behalf of the County Council, by the County Nursing Association.

### TREATMENT CENTRES AND CLINICS.

A treatment centre and clinic is provided at 17 Friar Lane, Leicester, where school children receive dental treatment, and treatment for minor ailments. A tuberculosis clinic is also held twice weekly.

It is anticipated that the work carried out at this central clinic will be transferred during 1938 to the new premises now under construction at 8 St. Martin's.

Provision is also made for treatment centres in the county as follows :

Coalville Health Centre, Bridge Road.

Melton Mowbray Health Centre, Asfordby Road.

Hinckley Health Centre, The Lawns.

These centres are all used for infant welfare centres, ante-natal clinics, tuberculosis dispensaries, orthopædic clinics, school clinics and dental clinics with the exception of that at Melton Mowbray, where no orthopædic or ante-natal clinic is held.

A clinic at John Street, Loughborough is used solely as a tuberculosis dispensary.

Progress on the construction of a new health centre at South Wigston continues and it is anticipated that it will be opened towards the end of 1938.

The following is a list of the infant welfare centres in the county :—

| NAME OF CENTRE.   | WHERE HELD.                                | SESSIONS.                               |
|-------------------|--|---|
| Anstey            | .... Church Room                           | .... 2nd & 4th Mondays,<br>2.30 p.m.    |
| Ashby-de-la-Zouch | Baptist Room, Market<br>Street             | Thursdays, 2.30 p.m.                    |
| Asfordby          | .... Parish Hall                           | .... 2nd & 4th Thursdays,<br>2.30 p.m.  |
| Barrow-on-Soar    | .... Baptist Chapel Room                   | .... 2nd & 4th Wednesdays,<br>2.45 p.m. |
| Barwell           | .... Wesleyan Schoolroom,<br>Chapel Street | .... 2nd & 4th Thursdays,<br>2.30 p.m.  |
| Birstall          | .... Church Schoolroom                     | .... 2nd & 4th Wednesdays,<br>2.30 p.m. |
| Blaby             | .... Baptist Room                          | .... 1st & 3rd Tuesdays,<br>2.15 p.m.   |
| Coalville         | .... Health Centre, Bridge<br>Road         | .... Tuesdays, 2.30 p.m.                |
| Cosby             | .... Primitive Methodist<br>Schoolroom     | .... 1st & 3rd Wednesdays,<br>2.30 p.m. |
| Desford           | .... Village Institute                     | .... 1st & 3rd Tuesdays,<br>2 p.m.      |
| Earl Shilton      | .... Adult Schoolroom                      | .... 1st & 3rd Thursdays,<br>2.30 p.m.  |
| Enderby           | .... Mission Room                          | .... 1st & 3rd Wednesdays,<br>2 p.m.    |
| Glenfield         | .... Parish Room                           | .... 2nd & 4th Tuesdays,<br>2.30 p.m.   |
| Hinckley          | .... Health Centre, The<br>Lawns           | .... Tuesdays, 2.30 p.m.                |
| Hugglescote       | .... Baptist Room                          | .... 2nd & 4th Mondays,<br>2.30 p.m.    |
| Ibstock           | .... Baptist Chapel School-<br>room        | .... 2nd & 4th Thursdays,<br>2.30 p.m.  |
| Kibworth          | .... Village Hall                          | .... 2nd & 4th Wednesdays,<br>2.30 p.m. |
| Lutterworth       | .... Church Hall                           | .... 1st & 3rd Thursdays,<br>2.30 p.m.  |
| Melton Mowbray    | .... Health Centre,<br>Asfordby            | .... Wednesdays, 2 p.m.                 |
| Mountsorrel       | .... Reading Room                          | .... 1st & 3rd Tuesdays,<br>2.30 p.m.   |
| Narborough        | .... Church Room                           | .... 2nd & 4th Thursdays,<br>2.30 p.m.  |



| NAME OF CENTRE. |      | WHERE HELD.                       |      | SESSIONS.                          |
|-----------------|------|-----------------------------------|------|------------------------------------|
| Oadby           | .... | Baptist Schoolroom                |      | 2nd & 4th Wednesdays,<br>2.45 p.m. |
| Quorn           | .... | Village Hall                      | .... | 1st & 3rd Wednesdays,<br>2.30 p.m. |
| Rearsby         | .... | Church Leys                       | .... | 1st & 3rd Tuesdays,<br>2.30 p.m.   |
| Rothley         | .... | Village Hall                      | .... | 1st & 3rd Mondays,<br>2.30 p.m.    |
| Shepshed        | .... | Primitive Methodist<br>Schoolroom |      | 1st & 3rd Wednesdays,<br>2.30 p.m. |
| Sileby          | .... | Pochin Hall                       | .... | 1st & 3rd Tuesdays<br>2.45 p.m.    |
| South Wigston   | .... | Congregational<br>Schoolroom      |      | 2nd & 4th Tuesdays<br>2 p.m.       |
| Syston          | .... | Church Hall                       | .... | Mondays, 2.30 p.m.                 |
| Thurmaston      | .... | Primitive Methodist<br>Schoolroom |      | Tuesdays, 2.30 p.m.                |
| Whetstone       | .... | Congregational<br>Schoolroom      |      | 2nd & 4th Tuesdays,<br>2.30 p.m.   |
| Whitwick        | .... | Primitive Methodist<br>Schoolroom |      | Mondays, 2.30 p.m.                 |
| Wigston Magna   | .... | Co-operative Hall                 | .... | 2nd & 4th Thursdays,<br>2.30 p.m.  |
| Wigston Central | .... | Congregational<br>Schoolroom      |      | 2nd & 4th Wednesdays,<br>2 p.m.    |

#### HOSPITALS—PUBLIC AND VOLUNTARY.

*Infectious Diseases other than Small-pox.*—The number of beds available in the county is 143 and these are distributed as follows :—

|                                   |      |      |      | BEDS. |
|-----------------------------------|------|------|------|-------|
| Markfield Isolation Hospital      | .... | .... | .... | 76    |
| Melton Mowbray Isolation Hospital | .... | .... | .... | 27    |
| Hinckley Isolation Hospital       | .... | .... | .... | 23    |
| Blaby Isolation Hospital          | .... | .... | .... | 17    |
| Total                             |      |      |      | 143   |

There are three resident medical officers at Markfield Isolation Hospital ; the other hospitals are served by part-time medical officers.

*Sanatoria.*—Treatment of pulmonary tuberculosis is carried out at the County Sanatorium, Markfield ; a full report of the year's work at this institution will be found in another section of this report.

*Small-pox.*—No alterations have been made in the arrangements for the treatment of this disease. Two hospitals are available in the county, Syston Small-pox Hospital, 15 beds, and Snarestone Small-pox Hospital, 23 beds. In addition a reciprocal arrangement is in force between the County Council and the Leicester City Authority for the reception of cases of small-pox. Details of this arrangement have been outlined in previous reports.

*Voluntary Hospitals.*—The Public Assistance Committee makes a grant to the Leicester Royal Infirmary, Market Harborough Cottage Hospital, Hinckley Cottage Hospital and Lutterworth Cottage Hospital for the reception of acute sick into those institutions.

Under the Authority's scheme for the operative treatment of enlarged tonsils and adenoids, provision is made for the use of the cottage hospitals at Ashby-de-la-Zouch, Market Harborough, Lutterworth, Melton Mowbray and Hinckley, and the Loughborough General Hospital.

The arrangements for the hospital treatment of maternity cases remain as in previous years and such cases are admitted to the Leicester and Leicestershire Maternity Hospital, the Leicester City General Hospital, and the cottage hospitals at Market Harborough and Lutterworth. An arrangement also exists with the Warwickshire County Council for the reception at the Rugby Maternity Home of maternity cases from parts of Leicestershire adjacent to the Warwickshire boundary.

**The accommodation available in the Institutions  
provided by the County Council is as follows :—**

| NAME OF INSTITUTION.       |      |      |      | NO. OF<br>BEDS. | DESCRIPTION OF<br>NURSING STAFF.  |
|----------------------------|------|------|------|-----------------|---|
| (1) POOR LAW INFIRMARY     |      |      |      |                 |   |
| Bosworth Park              | .... |      |      | 177             | Matron, assistant matron, 5 sisters, 1 staff nurse, 25 assistant nurses, 4 male nurses. |
| (2) POOR LAW INSTITUTIONS. |      |      |      |                 |   |
| Blaby                      | .... | .... | .... | 24              | Matron, 1 head nurse, 2 assistant nurses.   |
| Loughborough               | .... |      | .... | 85              | 1 superintendent nurse, 2 trained nurses, 12 assistant nurses, 2 male nurses.           |
| Lutterworth                | .... |      | .... | 8               | Matron, assistant matron, 2 assistant nurses.   |
| Market Harborough          | .... |      |      | 50              | Matron, 1 head nurse, 8 assistant nurses.   |

| NAME OF INSTITUTION.   |      | NO. OF<br>BEDS. | DESCRIPTION OF<br>NURSING STAFF.  |
|--|------|-----------------|---|
| Melton Mowbray   | .... | 48              | 1 head nurse, 2 trained nurses, 5 assistant nurses, 1 male nurse.           |
| Mountsorrel  | .... | 30              | 1 head nurse, 3 assistant nurses.   |
| (3) TUBERCULOSIS INSTITUTIONS.                               |      |                 |   |
| Markfield Sanatorium   |      | 130             | Matron, assistant matron, 8 sisters, 9 staff nurses, 22 probationers.       |
| (4) INFECTIOUS DISEASES HOSPITALS<br>(OTHER THAN SMALL-POX). |      |                 |   |
| Markfield Hospital   | .... | 76              | See Markfield Sanatorium.   |
| Blaby Hospital   | .... | 17              | Matron, sister, staff nurse, and 5 probationer nurses.                      |
| Hinckley Hospital  | .... | 23              | Matron, sister, staff nurse, 2 assistant nurses and 4 probationer nurses.   |
| Melton Hospital  | .... | 27              | Matron, sister, 2 staff nurses, 1 assistant nurse and 4 probationer nurses. |
| (5) SMALL-POX HOSPITALS.                                     |      |                 |   |
| Snarestone Hospital  | .... | 23              | *Matron, 1 staff nurse.   |
| Syston Hospital...   | .... | 15              | *1 staff sister.  |

\* Additional staff engaged as required.

## ADMINISTRATION OF MEDICAL SERVICES TRANSFERRED UNDER THE LOCAL GOVERNMENT ACT, 1929.

### INSTITUTIONS.

In addition to Bosworth Park Public Assistance Infirmary the following public assistance institutions are available in the county :— Loughborough, Lutterworth, Market Harborough, Melton Mowbray, Mountsorrel and Blaby. Details of the accommodation at these institutions and particulars of the nursing staff are given in a previous table.

### POOR LAW MEDICAL OUT-RELIEF.

A table showing the various districts and the names of the medical officers in charge will be found at the beginning of this report.

No difficulties have been encountered during the year in the administration of medical out-relief and no alterations have occurred in the constitution of the districts. The following staff changes were made :— The appointments of Dr. Hamilton to succeed Dr. Royle at Bottesford, and Dr. Kelly to succeed Dr. Keeling at Market Bosworth.



## VACCINATION.

The districts of the public vaccinators in the county number 30, and those of the vaccination officers total 14.

The following is a summary of the vaccination officers' returns rendered to the Registrar General respecting the vaccination of children whose births were registered from January 1st to December 31st, 1936.

|  |      |      |      |      |      |         |
|--|------|------|------|------|------|---------|
| (i) No. of births entered in Birth Lists as registered during 1936   | .... | .... | .... | .... | .... | 3,885   |
| (ii) Statement relating to the births on 31st January, 1937 :—   |      |      |      |      |      |         |
| (a) No. successfully vaccinated  | .... | .... |      |      |      | 207     |
| (b) No. insusceptible of vaccination   | .... | .... |      |      |      | 3       |
| (c) No. had Small-pox  | .... | .... | .... | .... |      | —       |
| (d) No. of Statutory Declarations received   | .... |      |      |      |      | 3,431   |
| (e) No. died unvaccinated  | .... | .... | .... |      |      | 149     |
| (f) No. temporarily unaccounted for  | .... | .... |      |      |      | 41      |
| (g) No. otherwise unaccounted for  | .... | .... |      |      |      | 54      |
|  |      |      |      |      |      | — 3,885 |
| (iii) No. of cases of children successfully vaccinated after Statutory Declaration had been received [included in sub-heading (d)] | .... | .... | .... |      |      | 1       |

### INSTITUTIONAL PROVISION FOR THE CARE OF MENTAL DEFECTIVES.

Provision is made for the care of mental defectives at Stretton Hall, near Leicester, which is approved for the reception of 160 cases made up as follows :—60 medium and high grade males over sixteen years of age ; 50 medium and high grade females over sixteen years of age ; 20 medium grade females under sixteen years of age and 30 cot and chair cases of either sex.

The Loughborough Institution has been approved under Section 37 of the Mental Deficiency Act, 1913, for the reception of 40 adult female defectives, and on December 31st last, 32 cases were on the register of the institution.

The Board of Control has also approved the Mountsorrel Public Assistance Institution for the reception of 23 adult male defectives, and the number of cases in this institution on December 31st, 1937, was 10.

# MATERNITY AND CHILD WELFARE.

## MIDWIFERY AND MATERNITY SERVICES.

MIDWIVES ACT, 1936.

### Statistics.

The figures given below only apply to the five months since the Midwives Act, 1936 came into force on August 1st, 1937.

### Whole-Time Midwives.

#### Analysis of Work done by Whole-time Midwives.

1st August—31st December, 1937.

| DISTRICT.      | CASES BOOKED.   |                 | CASES COMPLETED. |                 |                   | CASES<br>CAN-<br>CELLED. |
|----------------|-----------------|-----------------|------------------|-----------------|-------------------|--------------------------|
|                | MID-<br>WIFERY. | MATERN-<br>ITY. | MID-<br>WIFERY.  | MATERN-<br>ITY. | MIS-<br>CARRIAGE. |                          |
| Coalville .... | 61              | 28              | 44               | 19              | 3                 | 3                        |
| Hinckley ....  | 107             | 10              | 81               | 7               | 1                 | 9                        |
| Melton         |                 |                 |                  |                 |                   |                          |
| Mowbray        | 10              | 25              | 6                | 13              | 1                 | 2                        |
| Moira ....     | 20              | 15              | 7                | 12              | —                 | —                        |
| TOTALS ....    | 198             | 78              | 138              | 51              | 5                 | 14                       |

### District Nursing Association.

The following are the numbers of midwifery and maternity cases attended by the nurses from 77 district nursing associations :—

|             |      |     |
|-------------|------|-----|
| Midwifery   | .... | 407 |
| Maternity   | .... | 260 |
| Miscarriage | .... | 3   |
|             |      | —   |
| TOTAL       | .... | 670 |
|             |      | —   |

### Emergency Staff.

The maximum number of nurses allowed for the emergency staff is 14. For the period covered by the new Act the average number was 11 and these nurses undertook relief duty amounting to 215 weeks and 3 days for 58 district nursing associations.

### GENERAL STATISTICAL PARTICULARS.

During the year 222 midwives notified their intention to practise, 18 left the county and 8 voluntarily surrendered their certificate under the Midwives Act, 1936.

Of the 222 county midwives who notified their intention to practise, 220 hold the certificate of the Central Midwives Board, and the remaining 2 belong to the bona fide classification.

Inspection of the midwives is carried out by four members of the county health visiting staff to each of whom a district is assigned. Three of these officers are specially appointed county health visitors, and the fourth is the Superintendent Health Visitor under whose supervision the work in all the districts is undertaken.

The inspectors made 543 visits during the year. It was not found necessary as a result of these inspections to report any breach of the rules either to the local supervising authority or to the Central Midwives Board.

The annual returns received from the county midwives were as follows :—

|   |      |      |      |         |      |     |
|---|------|------|------|---------|------|-----|
| Medical help records                            | .... | .... | .... | ....    | .... | 800 |
| Notice of liability to be a source of infection |      |      |      | ....    | .... | 78  |
| Laying out of the dead records                  | .... | .... |      | ....    | .... | 82  |
| Notice of death of mother or child—Children     |      |      |      | ....    | .... | 17  |
|   |      |      |      | Mothers | .... | 2   |
| Stillbirth records                              | .... | .... | .... | ....    | .... | 46  |
| Notice <i>re</i> artificial feeding             |      |      | .... | ....    | .... | 80  |

The midwives called in medical help in 41 per cent. of the cases attended by them.

The chief causes for requesting medical help for the mother were :—Ruptured perineum, 206 ; difficult labour, 143 ; malpresentation, 37 ; raised temperature, 43 ; ante-partum hæmorrhage, 30 ; adherent placenta, 26 ; post-partum hæmorrhage, 28 ; abortion, 15 ; miscarriage, 20 ; albuminuria, 14 ; varicose veins, 11.

The chief causes of help required for the child were :—Discharge from the eyes, 43 ; feebleness, 34 ; prematurity, 16 ; abnormality, 23.

The records show that 3,135 cases were attended by midwives during the year and of this number 1,927 were taken by them alone. In the remaining 1,208 cases both doctor and midwife were in attendance.

#### *Doctor's fees in special cases.*

During the year one application was granted for payment of a doctor's fee of £2.2.0 under these arrangements.

*Placing of Midwives.*

A grant of £200 is made by the County Council to the County Nursing Association for the placing of midwives newly appointed either to fill a vacancy or to settle in a new district for which no previous provision had been made.

During the year 25 midwives were newly appointed to fill vacancies.

*Inspection of Midwives.*

It was not found necessary to suspend any midwife from duty through being in contact with infectious disease.

*Educational Facilities.*

The selection of candidates for midwifery scholarships and arrangements for training are carried out by the County Nursing Association and application should be made to the secretary of that association. During the year one candidate completed this training and one other commenced the course.

*Midwives Act, 1918.*

During the year, 465 claims were passed for payment under the provisions of this Act.

*Sterilized Maternity Outfits.*

These are supplied at cost price through the health department to the County Nursing Association for distribution to midwives. Independent midwives practising in the county may also avail themselves of this service on the same terms.

*\*Midwives' Fees.*

Applications were received from certified midwives in respect of their attendance on 34 necessitous cases. The fees paid varied from twenty-one shillings to thirty-five shillings. Grants under this arrangement amounted to £53 . 6 . 0.

*\*Subsidy to Midwives.*

A subsidy to one midwife was authorised by the County Council at a cost not exceeding £21 per annum and was given to the County Nursing Association for distribution.

For general emergency duties in the county, four nurse-midwives are maintained at the County Nurses' Home, Highfield Street, Leicester.



*\* Mileage Grants for Midwives.*

The sum of £25 . 10 . 0 was expended in mileage grants to midwives taking cases outside their usual area of practice, the Committee receiving thirteen applications, all of which were granted.

*\* Additional Administrative Arrangements.*

(1) Sparsely populated areas.—Grants were made to six associations providing midwifery services in sparsely populated areas.

(2) Necessitous districts.—Grants varying from £10 to £21 per annum were made to 16 district nursing associations. The method of administering these grants remained the same as in previous years.

\* In operation up till July 31st, 1937, after which date the provisions of the Midwives Act, 1936 came into force. Annual grants were paid proportionately.

### ANTE-NATAL SERVICES.

*Ante-Natal Examinations by General Practitioners.*

This section of the scheme provides for two ante-natal examinations of expectant mothers, one being a general medical examination early in pregnancy and the other a full obstetrical examination between the 34th and 40th weeks. The doctor is paid a fee of 5/- for each examination, together with travelling expenses.

The total number of expectant mothers referred by midwives to general practitioners during the year was 575 ; of these 251 had two medical examinations, 101 one examination and in the remaining 223 no report or claim for fee was received from the doctor.

It is satisfactory to note that the proportion of cases completely dealt with under this service is greater than the previous year though there is still room for improvement. The success of this service depends on the whole-hearted co-operation of the midwives and doctors in the county.

*Report on the work of the Ante-natal Clinics.*

In any report on ante-natal work as carried out in clinics, figures and statistical tables must of necessity take a prominent place.

In order that the figures may be of any real value in the present case, it must be clearly stated that all the data were collected from cards kept for strictly clinical purposes and kept moreover, under circumstances where brevity and haste in note taking are rendered necessary lest it usurp precious time needed for examination of the patients and giving of

advice. This is not to say that the figures are inaccurate as far as they go, but they are certainly not capable of representing such a wide and balanced survey of the year's work as might have been the case had fuller note-taking been feasible, and that with statistical values in view.

A still more important point to bear in mind in reading such a report as this, is that each unit of the total laconically labelled "No. of patients attending" is in fact a live human being, differing widely in age and circumstances from every other unit that goes to make up the sum. These expectant mothers range from children of 15, muddled and frightened, to middle aged women worn out by rapidly repeated pregnancy—though happily between these depressing extremes are many types of normal healthy motherhood. Moreover in any age group and in any set of physical conditions we are liable to find, all too commonly, the mothers of subnormal mentality who being through no fault of their own, completely unfitted for the role of parent, present such an insoluble problem both here and later on at the infant welfare centre.

To all these and to the many varying intermediate types, the same routine physical examination is applicable but in the supremely important task of inculcating higher standards of mental and physical well being in pregnancy, of dealing with dietetic prejudices as well as deficiencies, explaining the practical points of hygienic clothing and daily habits, doing what can be done to restore confidence and nervous stability, everything in fact that belongs to the wide educative sphere—here the work remains terribly cramped for lack of time or, alternatively, from shortage of staff.

Of the three clinics now in operation, at Coalville there is a weekly, morning session, and at Hinckley and at Wigston Magna a fortnightly session in the afternoon. The completion of the building at South Wigston which is expected during the year will greatly relieve the congestion at Wigston Magna and also reduce the distance travelled by patients coming from Blaby and Whetstone areas.

In all the clinics the willing help of the local midwives who whenever possible attend with their cases, is a great asset and much appreciated. It is manifest also that the midwives derive substantial benefit from being present at the examination of their patients.

It is to the midwives' co-operation also that we owe much useful information as to the confinement and puerperium.

The subsequent attendance of mothers with their children at the infant welfare centres gives some opportunity for follow-up work. How-

ever, there are only three centres, Hinckley, Wigston Magna, and Coalville, which have the two essential qualifications, *i.e.*, they have the same doctor as the welfare centre and serve the same area, and these centres are so overcrowded that adequate individual work is impossible.

Facilities have now been granted by the Committee whereby cod liver oil and malt, and calcium lactate, can be supplied at cost price to mothers attending the clinics, and free of charge to those who are really necessitous, but this provision is too recent for inclusion in the present report beyond an appreciative reference to the fact of its inauguration. Milk grants are issued during the last three months of pregnancy to those whose incomes come within the scale. The need for supplementing the inadequate ill-balanced diets of a large proportion of our population is an accepted though regrettable fact. If poverty were the sole cause of dietetic insufficiency the question would be a comparatively simple one, but no one knows better than the doctor engaged in school inspection and maternity and child welfare work how far we still are from our goal in those branches of education that deal with the practice of hygiene in daily life. What is learnt in school with regard to cooking and food values too often fails to make any appreciable difference to what is eaten at home, and the food habits learnt in childhood, particularly with regard to the use of vinegar and ill timed heavy suppers, are difficult to change in adult life and the dyspepsias and anæmia of pregnancy are rife. To combat some of the results of faulty nutrition cod liver oil and malt, calcium, and easily assimilable forms of iron are extremely valuable, though we regard it as obligatory upon us to do all we possibly can to encourage a wholesome mixed diet which shall include all the food factors necessary for complete nutrition. It is the usual practice to advise iron in all cases of hæmic murmur and the results have been on the whole very satisfactory.

Related more or less closely to the question of nutrition is that of oral conditions—caries, sepsis and dental deficiency, while dental and medical science join hands over the elusive and ever prevalent gingivitis.

The local dentists and the Leicester Royal Infirmary have provided treatment in a good many cases but there are still a large number to whom expense forms an insuperable barrier to private treatment while the length of journey debars them from attending the Leicester Royal Infirmary. To these the new provision of a dental service will be a great boon. Appointments can now be made whereby the school dentists treat such cases as the medical officer of the ante-natal clinic recommends and this treatment will be carried out at the clinic nearest to the patient's home.

With regard to cases of abnormality, patients can be sent to Causeway Lane Ante-natal Clinic for Dr. Lilley's advice. This has proved a most



valuable arrangement especially for Wigston Magna clinic. Hinckley and Coalville are actually too far from the city to allow as much use to be made of this consultative service as is the case with the Wigstons. Sometimes it is possible to send the patient to Leicester—in other cases the clinic medical officer gets in touch with the local practitioner and other arrangements are made according to the circumstances of the particular case.

Patients from the Coalville Centre can be sent to Markfield for X-ray examination where this is desired for diagnostic purposes.

Maternity cases needing hospital treatment are referred to Dr. Lilley who admits them to the Causeway Lane Hospital. This is a very satisfactory arrangement when the matter to be dealt with is some complication of labour, but it can hardly be said to cover the cases where the general condition of the patient makes it desirable for her to be admitted several weeks before time, nor does it satisfactorily provide for those whose unhygienic surroundings make delivery at home undesirable or actually unsafe. In this connection it is greatly to be regretted that the facilities provided at Bosworth Hall are not yet generally appreciated. The surroundings and up-to-date equipment of this institution make it ideal for the reception of maternity cases from overcrowded and insanitary houses.

The total number of pregnant women who attended the clinics during the past year was 573—224 primiparæ and 349 multiparæ. In addition to these a small number of multiparæ came to seek advice for sterility and 8 attended in the mistaken belief that a pathological amenorrhœa was due to an early pregnancy.

The average number of attendances per patient was between 3 and 4, the majority first presenting themselves for examination either at the 6th or 7th month. The number of patients who come for advice early in pregnancy increases each year with the realisation that early examination is desirable and proportionately the number of women who turn up at the last moment just to see if everything is alright has diminished. The times of the first attendances are tabulated below.

|           |      |      |     |
|-----------|------|------|-----|
| 3rd month | .... | .... | 23  |
| 4th month | .... | .... | 35  |
| 5th month | .... | .... | 97  |
| 6th month | .... | .... | 164 |
| 7th month | .... | .... | 165 |
| 8th month | .... | .... | 80  |
| 9th month | .... | .... | 9   |



Apart from subnormal nutrition, which cannot be represented in figures the most striking defects found among these ante-natal cases, were 160 patients who required dental treatment, of whom some were sent to private dentists, some were treated at the Leicester Royal Infirmary, but a deplorably large number remained untreated, either from the want of the means or the will to help themselves, in a matter that to them often seems relatively unimportant. Education in matters of dental hygiene will be greatly strengthened when it is supported by the offer of free treatment at a nearby county clinic under the new dental scheme.

There were 43 cases of varicose veins, mostly amongst the multiparæ. When severe and crippling, varicose veins present a serious and difficult problem to the medical officer, as a mother with a large family under her care lacks the opportunity of resting for any length of time. Supporting bandages—especially of the elastoplast type have proved a great boon in such cases.

Among 10 cases of multiple pregnancy there was one of triplets, and 9 twins.

22 cases shewed an abnormal presentation during or after the 8th month and all these were sent either to hospital or to the care of their local doctors for delivery.

In only 23 of the total 573 mothers examined was there any degree of pelvic contraction—and many of these showed no discrepancy between the size of the foetal head and the pelvic brim at their last attendance at the clinics. Complete records of the delivery of all these cases have not been obtained. Some degree of anæmia is fairly common amongst the pregnant women who attend the clinics, as evidenced by the frequency of hæmic cardiac murmurs especially during the early months. Apart from such cases of slight anæmia there were 31 more severe cases with either obvious pallor of the mucous membranes or some typical symptoms. There were 35 mothers with some degree of albuminuria.

Of 7 cases with cardiac lesions 5 were mitral regurgitation and 2 myocardial insufficiency without typical murmurs.

For geographical reasons the records of the delivery and later progress of the patients are necessarily incomplete. Some of the district nurses never attend at all with their patients, and when both nurse and patient from an outlying district come for some special reason, the same nurse may not have another case during the year which is urgent enough to justify a long and inconvenient journey.

There were 171 cases of recorded labours, 146 in which delivery was normal, and 25 in which labour was complicated.

The 25 complicated cases were 9 twins, 1 triplets, 2 placenta prævia, 3 persistent occipito-posterior presentation, 1 transverse lie, 4 breech presentations, 1 face presentation, 2 prolonged second stage of labour requiring forceps delivery, 1 induced labour for valvular disease of the heart and 1 cæsarean section.

The scheme referred to in last year's annual report whereby arrangements are made for two ante-natal examinations by general practitioners must be considered as operating more specially in areas not served by ante-natal clinics, nevertheless the women are given the choice and arrangements can always be made for them to be examined by a private practitioner if they prefer this to attending the clinic. The number taking advantage of this choice appears to vary considerably in different areas but doubtless it affords some relief of the congestion at all the clinics. Although the majority of patients who have booked a doctor for their confinements do not need to seek advice from the clinics some of the local doctors do advise their patients to attend. Such signs of co-operation from the general practitioners are always welcomed, as it is essential that if the patients are to receive the maximum benefit from the work, the clinic staffs and the doctors who will take charge of the patients during their confinements should be able and willing to work together. The growing realisation of the necessity for ante-natal supervision amongst pregnant women increases their readiness to attend the clinics, and to consult their own doctors on matters concerning their health. The number of women who attend the clinics continues to increase each year, often at the expense of the amount of individual attention they receive, but if the scheme is to do any good at all, it is highly desirable that there should be continuity between ante-natal and post-natal supervision. This can only be achieved if the clinic doctors and nurses are prepared to work in close co-operation for the welfare of the patient.

(Signed) M. E. WESTON.

C. WALTERS.

#### INFANT WELFARE CENTRES.

During the past year there has been no alteration in the number of infant welfare centres or ante-natal clinics in the county. Details of the facilities available in the various branches of the maternity and child welfare service are set out below under the appropriate headings.

The number of welfare centres in the county is thirty-four, seven of which hold a weekly session and twenty-seven a fortnightly session.

The County Council controls all the centres with the invaluable assistance of voluntary committees who keep the registers and attend to the social aspect of the work. The responsibility of all financial commitments is undertaken by the County Council. A health visitor attends at each session and a medical officer at alternate sessions.

It is satisfactory to note that the numbers of mothers and infants on the registers shows an increase on the previous year. During the past three years, however, there has been a gradual decline in the number of toddlers on the registers, which is disappointing, as in the absence of toddlers' clinics or other special supervisory centres the attendance of toddlers at the infant welfare centres remains the only means of supervising the health of this important section of the child population.

#### *General Administration.*

The administration of each welfare centre as a separate unit is to a large extent undertaken by the voluntary committee. All matters affecting the centres as a whole are, however, dealt with by the Health Department.

While every consideration is given to applications for the inauguration of new welfare centres many details have to be enquired into before definite support is given by the County Authority. In order to justify the formation of a welfare centre the area must be sufficiently populous.

Difficulty is sometimes experienced in arranging for a medical officer to be in attendance at all the present welfare centres and any appreciable extension of the welfare service would necessitate the augmentation of the present staff.

As it is impossible for all the infants in the county, owing to the scattered nature of the population, to attend the centres already established, a system of periodic home visiting by the health visiting staff is in operation.

The supervision of pre-school children is carried out on the same lines as that of infants, home visits being made by the health visitors and every encouragement given to the children to attend at the welfare centres where they are within easy reach. Thus the health of the children is periodically ascertained from early infancy, until school age is reached and any deviation from the normal with regard to growth and development is registered.

As pointed out in previous reports the present state of our maternity and child welfare services is inadequate to meet the needs of the infant and pre-school child population of the county. An extension of the service is therefore necessary in order to ensure that the health of every child comes under the supervision of the medical officers.

Close co-operation exists between the infant welfare and school medical services but this co-operation would be all the more valuable if the large number of preventable defects found each year among the entrants by the school medical officers could be minimised by the introduction of arrangements for the periodic medical inspection and treatment of all pre-school children.

#### *Clinical Work.*

Each infant welfare centre is attended regularly by a whole time medical officer who examines every infant upon his first attendance and thereafter at periodic intervals. The mother is advised on all matters pertaining to the health of her child and if any medical treatment is necessary she is advised to consult a general practitioner as no treatment is undertaken at the welfare centres.

Orthopædic treatment for crippling defects and treatment for eye defects are provided for by this Authority at special clinics, these specialised types of treatment being outside the province of the general practitioner.

The centres are run entirely on preventive lines the object being to detect disease in the early stages and to insist on appropriate treatment before serious complications arise.

#### *Educational Work.*

Not only is the work at the welfare centre directed towards the medical supervision of all the children in attendance, but no less important are the educational benefits to be derived by the mothers. The lectures which are given at each session by a medical officer or health visitor are intended to stimulate the interest of the mothers present and thus raise the standard of child and home hygiene. Unfortunately a great deal of difficulty is experienced in overcoming the indifference of some of the parents who pay little or no heed to the advice given.

The teaching of mothercraft and domestic training in the schools will go a long way to overcome the prejudice displayed by many of the present generation, the mothers of the future being guided and trained while their minds are still receptive. Later they will appreciate the benefits to be derived from the maternity and child welfare services available.



It is during the last year at school that the teaching of mothercraft should be undertaken and at the same time arrangements should be made for the attendance of these senior girls at infant welfare centres from time to time.

### *Statistics.*

During the year 874 meetings were held at the various centres. The total number of mothers on the registers was 3,660 and the number of attendances made was 37,236.

The total number of infants under one year was recorded as 2,374 and the number of attendances made was 20,635. The number of toddlers attending the centres was 2,408 and these made a total of 22,633 attendances.

The average attendance of children at all centres during the year was 43 per meeting.

During the year 1,581 women, 1,534 infants under one year of age, and 476 toddlers attended the centres for the first time. Of the total number of children born in the county during the year, 39.5 per cent. attended the infant welfare centres.

The medical officers made 430 visits to infant welfare centres during the year. The visits of the individual medical officers were as follows :—  
Dr. Fairer 12 ; Dr. Cowan 14 ; Dr. Lisney 56 ; Dr. Coward 3 ; Dr. Weston 130 ; Dr. Walters 159 ; Dr. Thompson 54 ; Dr. Lane 2.

The number of lectures given at infant welfare centres by medical officers and health visitors during the year was :—

Medical officers 315 ; health visitors 268 ; special lectures 23.

The medical officers made 4,758 clinical examinations during 1937 and 1,619 children were examined for the first time. The total number of weighings carried out by health visitors was 37,957.

The principal defects observed by medical officers were :—skin conditions 134 ; phimosis 91 ; bronchitis 91 ; umbilical hernia 62 ; external eye conditions 72 ; rickets 33 ; strabismus 36 ; gastric trouble 47 ; nasopharyngitis 34 ; ear diseases 20 ; hernia 21.

### *Supply of Milk to Necessitous Mothers.*

One pint of milk per day is supplied free under this scheme to (a) expectant mothers within three months of their confinement ; (b) nursing



mothers ; and (c) infants under two years who are certified to be in need of extra milk for health reasons.

Each grant is issued according to an income scale adopted by the Committee and a health visitor carefully investigates the medical and financial circumstances before the grant is made.

If the patient attends the infant welfare centre a certificate is obtained, when possible, from the medical officer in charge. The grant is subject to attendance at an infant welfare centre if one is within reach of the patient.

Only liquid milk is supplied and where it is possible to obtain it, "Accredited" milk is provided.

During the year 1,062 applications for grants of milk were received and 867 were approved by the Maternity and Child Welfare Committee for periods not exceeding two months, after which time the cases were re-considered.

#### MATERNAL CARE.

##### *Maternal Mortality*

The work of investigating all maternal deaths in the county is undertaken by the Deputy County Medical Officer in accordance with principles laid down in the Ministry of Health Memoranda.

A full report on all the circumstances of each case is forwarded to the Chief Medical Officer of the Ministry of Health. All matters relating to investigation are treated as strictly confidential and no copy is retained locally.

Co-operation with the general practitioners is necessary in carrying out the investigations and assurance is given to them that no consequences are likely to follow their making a full report on the circumstances of the cases.

##### *Puerperal Fever and Puerperal Pyrexia.*

Any general practitioner requiring the services of a consultant can avail himself of the facilities provided in the county scheme by applying to the Health Department. Bacteriological examinations are undertaken at the county laboratory.

Cases requiring isolation and treatment in hospital are admitted to Markfield, Melton and Hinckley Isolation Hospitals, where special beds are available for such cases.

*Provision of Consultants.*

Consultants with special experience in obstetrics have been appointed and are available to any general practitioner who requires assistance for a patient in difficulties or complications arising during pregnancy or at, or after, confinement. The following are the main provisions governing this service :—

- (i) The services of a consultant shall be available to any general practitioner in the Administrative County requiring assistance for a patient in difficulties or complications arising during pregnancy, at confinement or up to four weeks after confinement.
- (ii) Special application by a practitioner for the services of a consultant must be made to the County Medical Officer of Health.

In urgent cases occurring outside office hours, application may be made direct to the consultant. In all such cases both the practitioner and the consultant must notify the County Medical Officer of Health within twenty-four hours of the consultation having taken place.

- (iii) When a consultant has been called in, application will be made by the County Council to the patient for the recovery of the cost of the consultants' services.

During the year consultants were called in for 11 complicated cases and 6 cases of puerperal fever and pyrexia.

**BIRTH CONTROL.**

The arrangement for the attendance of county patients at the Leicester City Birth Control Clinic still continues.

The types of cases considered suitable include women suffering from some serious constitutional condition such as tuberculosis, heart disease, kidney disease, diabetes, profound anæmia, certain types of arthritis, toxic goitre, also women suffering from mental disorder including inheritable forms of insanity, epilepsy or feeble-mindedness, as well as women suffering from local gynæcological affections or malformations.

The number of cases referred either by their own doctors or by a member of the county medical staff during 1937 was 16. These cases included women suffering from heart disease, tuberculosis, severe debility, contracted pelvis and other general and local pathological conditions.

REPORT OF THE MATERNAL MORTALITY OFFICER (Dr. A. A. LISNEY,  
Deputy County Medical Officer).

It is satisfactory to note that the maternal mortality rate of 3.01 for the county compares favourably with the figure for the previous year, there being a decrease of 0.9.

The returns of maternal mortality during the years 1928-1937 are set out in the following table :—

**Leicestershire Maternity Mortality per 1,000 Births.**

| Year | No. of Puerperal Deaths. |        |              | Rate per 1,000 Births |       |
|------|--------------------------|--------|--------------|-----------------------|-------|
|      | Total Births             | Sepsis | Other Causes | Total                 | Total |
| 1928 | 5,074                    | 12     | 12           | 24                    | 4.7   |
| 1929 | 5,013                    | 9      | 15           | 24                    | 4.8   |
| 1930 | 5,201                    | 7      | 10           | 17                    | 3.27  |
| 1931 | 5,179                    | 5      | 12           | 17                    | 3.28  |
| 1932 | 5,039                    | 5      | 12           | 17                    | 3.37  |
| 1933 | 4,593                    | 7      | 15           | 22                    | 4.79  |
| 1934 | 4,919                    | 6      | 11           | 17                    | 3.46  |
| 1935 | 4,475                    | 7      | 10           | 17                    | 3.80  |
| 1936 | 4,598                    | 6      | 12           | 18                    | 3.91  |
| 1937 | 4,658                    | 10     | 4            | 14                    | 3.01  |

The chief addition to the maternity services of the county during the year has been the inauguration on August 1st, of a scheme to meet the obligations of the County Council under the Midwives Act, 1936.

Details of the scheme, including certain modifications submitted to the Ministry of Health, are outlined below :—

*The Midwives Act, 1936.*

The present domiciliary midwifery service in the county covers the greater part of the area by an arrangement between the County Council and the Leicestershire County Nursing Association, under which district nurse midwives are employed through district nursing associations affiliated to the Central Association. A certain number of unaffiliated district nursing associations also employ nurse midwives, and there are a number of independent midwives practising in the county.

Grants are made to the Leicestershire County Nursing Association by the County Council, where necessary, toward the expenditure incurred by district nursing associations in conducting the midwifery services in their areas.

## PROPOSALS.

- (1) That the present arrangements with the Leicestershire County Nursing Association be continued and that all district nursing associations in the county be asked to join therein. In some of the areas where an independent midwife is in practice, the County Nursing Association has been asked to endeavour to establish a district nursing association, and in those areas where this is not possible, whole-time midwives will be appointed.
- (2) That an initial grant of £10 be paid to unaffiliated district nursing associations as an inducement to join the central body.
- (3) That the following be the basis for the payment of grants to district nursing associations :—
  - (a) The actual amount of the nurse-midwives' salaries paid by the district nursing association if less than the scale under these proposals, or the amount of the scale if the salary paid is in excess of such scale, together with a sum not to exceed £20 where one nurse-midwife is employed, or £30 where two or more nurse-midwives are employed in respect of the expenditure of the district nursing association on general nursing and midwifery services, insurances, pension, relief nurse, nursing requisites, etc.
  - (b) The receipts from members' fees to be taken as the amount available to district nursing associations for general nursing purposes.
  - (c) The district nursing associations to be permitted to retain all fees collected for midwifery and maternity services, and fees not recoverable by the district nursing associations to be referred to the County Council for collection. The following shall be the fees to be charged by district nursing associations :—

## MEMBERS.

|              |              |
|--------------|--------------|
| Midwifery :  | Maternity :  |
| 20/- to 35/- | 15/- to 35/- |

## NON-MEMBERS.

|              |              |
|--------------|--------------|
| Midwifery :  | Maternity :  |
| 35/- to 50/- | 30/- to 50/- |

The scale of income adopted by the County Council shall be applied to all cases referred to the committee as necessitous and the difference between the amount payable under such scale and the fee charged by the district nursing association, but not exceeding 35/- shall be paid by the County Council.



(d) Any remaining difference between the sums mentioned in paragraphs (b) and (c) and the total expenditure in paragraph (a) to be partly made up by means of a County Council grant to the district nursing association. This grant to be made on the following basis :—

|  |      |      |      |                                 |
|--|------|------|------|---------------------------------|
| Sparsely populated areas that have been in receipt of £78 grant and over | .... | .... | .... | 75 per cent. of the difference. |
| Sparsely populated areas that have been in receipt of £50 grant          | .... | .... | .... | two - thirds of the difference. |
| Necessitous districts that have been in receipt of £21 grant             | .... | .... | .... | 50 per cent. of the difference. |
| Necessitous districts that have been in receipt of less than £21 grant   | .... | .... | .... | one-third of the difference.    |
| Other district   | .... | .... | .... | 25 per cent. of the difference. |

(e) The following to be the minimum grants to be paid to district nursing associations :—

|  |     |
|--|-----|
| Number of cases undertaken during the year, 30 and under | £10 |
| „ „ „ „ „ „ „ 31 to 50                                   | £15 |
| „ „ „ „ „ „ „ 51 to 70                                   | £20 |
| „ „ „ „ „ „ „ over 70                                    | £25 |

(f) A special grant to be made to any district nursing association where, owing to exceptional circumstances, the County Council are of the opinion that such a grant should be made.

(g) A grant to be made for the provision of motor cars, and towards their upkeep and renewal, to district nursing associations where the County Council are satisfied that such cars are essential.

(h) Telephones to be provided by the County Council where they are satisfied that same should be installed.

(4) That the general working of these proposals be carried out from the headquarters of the Leicestershire County Nursing Association. A grant of £1,392 will be made to this association for administration and the placing of midwives in the county.

(5) That the number of midwives employed in the county be approximately 112. No midwife to be granted more than four weeks'



holiday during the year, hence the number of midwives required for relief duty may be ten for those on holidays and two for those attending courses of instruction.

The number of relief midwives for sickness, based on present requirements, will be two.

The arrangements for relief midwives for course of instruction and holiday duty will form part of the duties of the Secretary and the Superintendent of the County Nursing Association.

- (6) That the salaries to be paid to midwives of district nursing associations be as follows :—

|   |      |  |
|---|------|--|
| District nurse midwives   | .... | £150 per annum, rising by biennial increments of £5 to £170 per annum, and uniform provided by the County Council. |
| State registered or fully trained nurses with S.C.M. qualification. |      | £180 per annum, rising by biennial increments of £5 to £200 per annum, and uniform provided by the County Council. |

Midwives who are Queen's Nurses to be paid a uniform allowance of £8 per annum in lieu of uniform.

No alteration to be made in existing salaries which are in excess of this scale.

Any existing salaries which are less than the scale to be made up to the scale by the County Council.

When a vacancy occurs in the area of a district nursing association where the fees from midwifery and maternity cases are less than £30 per year, a state registered nurse shall not be appointed unless the district nursing association is prepared to pay the additional cost, exceptional cases to be considered by the County Council. Provided however that any such district nursing association may with the concurrence of the person to be appointed, employ a state registered nurse at the salary applicable to district nurse midwives.

The salary to be paid to nurse midwives, who have received a free scholarship appointment and are under agreement to work for less salary for the first two years, to be as follows :—

|                         |      |   |
|-------------------------|------|---|
| State registered nurses | .... | £180 per annum less £20 for the first and second years  |
| District nurse midwives | .... | £150 per annum less £10 for the first and second years. |

The salary to be paid to nurse midwives on the emergency staff at the County Nurses' Home to be as follows :—

|                         |      |   |
|-------------------------|------|---|
| State registered nurses | .... | £85 per annum, rising by biennial increments of £5 to £100 per annum, with board and lodging. |
| District nurse midwives | .... | £70 per annum, rising by biennial increments of £5 to £80 per annum, with board and lodging.  |

The salary to be paid to nurse midwives on the emergency staff at the County Nurses' Home who are under agreement to undertake service for two years, to be as follows :—

|                         |      |                                       |
|-------------------------|------|---------------------------------------|
| State registered nurses | .... | £65 per annum with board and lodging. |
| District nurse midwives | .... | £50 per annum with board and lodging. |

- (7) That a fee of 35/- per week be charged to district nursing associations for emergency nurse midwives.
- (8) That the following be the terms and conditions relating to the appointment by the County Council of whole-time midwives :—

The salary to be £180 per annum, rising by biennial increments of £5 to £200 per annum.

Uniform and equipment to be provided by the County Council.

Midwives who are Queen's Nurses to be paid a uniform allowance of £8 per annum in lieu of uniform.

Approved travelling expenses to be paid.

No subsistence allowance to be paid.

Annual holiday not to exceed four weeks.

One half-day off per week provided adequate arrangements are made for relief.

To reside in the parish required by the County Council.

The appointment to be terminable by one calendar month's notice in writing on either side.

The post to be designated under the Local Government and other Officers' Superannuation Act, 1922.

The following to be the fees in respect of cases undertaken :—

Midwifery, 35/- to 45/-. Maternity, 30/- to 40/-.

The fees to be charged in the respective areas to be fixed by the County Council.

The fees to be collected by the County Council.

- (9) That the following be the midwifery and maternity fees for services of whole-time midwives in the following areas :—

| AREA.               | MIDWIFERY FEE. | MATERNITY FEE. |
|---------------------|----------------|----------------|
| Hinckley ....       | £2 2 0         | £1 15 0        |
| Melton Mowbray .... | 2 0 0          | 1 12 6         |
| Coalville ....      | 1 15 0         | 1 10 0         |
| Moirs ....          | 1 15 0         | 1 10 0         |

The fee in the case of an abortion or miscarriage to be £1 . 0 . 0.

A booking fee of 5/- to be charged in every case which will be credited towards the midwife's fee.

Where a case is not eventually taken by the midwife through the patient being admitted to hospital or leaving the district before confinement, etc., the following fee to be charged :—

- Where ante-natal visits made, 5/-, *i.e.*, booking fee.
- Where no ante-natal visits made free, and booking fee to be returned.

A fee of 1/- per visit to be charged for ante- and post-natal visits made by whole-time midwives when acting as relief for independent midwives in any part of the county.

- (10) That the following be the scale of income to be adopted in necessitous cases for the total or partial remission of fees :—

| Nett income ascertained<br>by deducting rent and 5/-<br>for each child under 14 years<br>of age, from the total income | No<br>maternity<br>benefits | One<br>maternity<br>benefit | Two<br>maternity<br>benefits |
|--|-----------------------------|-----------------------------|------------------------------|
| £1 . 0 . 0 and under ....  | Nil                         | 5/-                         | 10/-                         |
| Over £1 but not exceeding 25/-   | 5/-                         | 10/-                        | 15/-                         |
| „ 25/- „ „ 30/-  | 10/-                        | 15/-                        | 20/-                         |
| „ 30/- „ „ 35/-  | 15/-                        | 20/-                        | 25/-                         |
| „ 35/- „ „ 40/-  | 20/-                        | 25/-                        | 30/-                         |
| „ 40/- „ „ 50/-  | 30/-                        | 35/-                        | 40/-                         |
| „ 50/- „ „   | Full fees                   | Full fees                   | Full fees                    |

- (11) That the Loughborough Municipal Borough Council (hereinafter referred to as the Borough Council), with the concurrence of the County Council, appoint three whole-time midwives at the salary and upon the conditions stated in the last preceding paragraph. The County Council and the Borough Council will agree upon a scale of income to be applied to cases where it is proposed to remit the whole or part of the fees to be recovered.

Any deficiency between the amount of the midwives' salaries, together with expenses in connection with the terms of their appointment, and the amount of fees received, shall be paid by the County Council and the Borough Council in equal shares.

This arrangement to be reviewed after it has been in operation for one year.

- (12) That the Market Harborough Urban District Council, with the concurrence of the County Council, appoint a whole-time midwife, upon such terms and conditions of appointment as the Urban District Council may decide.

The County Council will make a contribution of £50 towards the salary and expenses of such midwife.

This arrangement will be reviewed after it has been in operation for one year.

## INSTITUTIONAL PROVISION FOR MOTHERS AND CHILDREN.

### *Maternity Hospitals.*

An arrangement exists with the Leicester and Leicestershire Maternity Hospital for the reception of county cases into the hospital and an annual grant of £100 is made by the County Council to this institution. The maintenance charge for each patient is £2 . 5 . 0 per week.

An arrangement is also in force with the Warwickshire County Council to receive at their maternity home at Rugby, maternity cases from parts of Leicestershire near the Warwickshire boundary.

Complicated maternity cases (other than puerperal fever and puerperal pyrexia) from the county are admitted to the Hospital of St. Cross, Rugby. The County Maternity and Child Welfare Committee undertakes responsibility for the cost of emergency cases (£3 . 3 . 0 per week) provided that the County Medical Officer is notified as soon as possible after the patient's admission. The recovery of the whole or part of the charge is subsequently considered by the Committee. Approval of the Maternity and Child Welfare



Committee must be obtained before other than emergency cases can be admitted. Complicated cases are also admitted to the Leicester City General Hospital and the Cottage Hospitals at Market Harborough and Lutterworth.

Facilities exist for the reception of unmarried expectant mothers at St. Saviour's Home, Northampton. During 1937, eight cases were admitted to this home from the county. In addition, arrangements are in force with the Ely Diocesan Home, Cambridge, and the Salvation Army Home, Birmingham, to receive cases if required.

#### *Treatment of Children.*

Provision is made for the treatment of tuberculous children at the County Sanatorium, Markfield. Further details will be found in a separate section of this report. Ill-nourished and delicate children between three and five years of age are received at the Children's Convalescent Home, Woodhouse Eaves.

The following is a report from the medical officer of the home :—

|  |      |      |      |           |
|--|------|------|------|-----------|
| Total number of children admitted          | .... | .... | .... | 11        |
| Average stay of each child in days         | .... | .... | .... | 73.2 days |
| Average gain in weight....                 | .... | .... | .... | 3.6 lbs.  |
| State of health on discharge—              |      |      |      |           |
| Much improved                              | .... | .... | .... | 1         |
| Improved                                   | .... | .... | .... | 10        |
| Diseases for which children were admitted— |      |      |      |           |
| Debility (various causes)                  | .... | .... | .... | 10        |
| Persistent cough (bronchitis)              | .... | .... | .... | 1         |

#### HEALTH VISITORS.

The county health visiting staff consists of the Superintendent Health Visitor and 19 health visitors, a list of whom will be found at the beginning of this report. A summary of the work carried out during 1937, apart from that in connection with the School Medical Department, is appended herewith :—

Children under 12 months :—

|                               |      |      |      |      |        |
|-------------------------------|------|------|------|------|--------|
| First visits                  | .... | .... | .... | .... | 3,752  |
| Subsequent and special visits | .... | .... | .... | .... | 25,765 |
| Children 1-5 years            | .... | .... | .... | .... | 39,175 |
|                               |      |      |      |      | <hr/>  |
| Total                         | .... | .... | .... | .... | 68,692 |
|                               |      |      |      |      | <hr/>  |



## Tuberculosis :—

|  |      |      |      |      |      |       |
|--|------|------|------|------|------|-------|
| First visits                             | .... | .... | .... | .... | .... | 261   |
| Subsequent and special visits            | .... | .... | .... | .... | .... | 4,535 |
| Total                                    | .... | .... | .... | .... | .... | 4,796 |
| Attendances at infant welfare centres    | .... | .... | .... | .... | .... | 893   |
| „ at women's institutes                  | .... | .... | .... | .... | .... | 3     |
| „ at ante-natal clinics                  | .... | .... | .... | .... | .... | 88    |
| Lectures at infant welfare centres       | .... | .... | .... | .... | .... | 213   |
| „ at women's institutes                  | .... | .... | .... | .... | .... | 3     |
| Attendances at tuberculosis dispensaries | .... | .... | .... | .... | .... | 311   |
| „ at orthopaedic clinics                 | .... | .... | .... | .... | .... | 156   |
| Pre-natal visits                         | .... | .... | .... | .... | .... | 1,079 |
| Other visits : <i>re</i> Stillbirths     | .... | .... | .... | .... | .... | 88    |
| „ Applications for milk                  | .... | .... | .... | .... | .... | 1,067 |
| „ Child-life protection                  | .... | .... | .... | .... | .... | 259   |
| „ Boarded-out children                   | .... | .... | .... | .... | .... | 219   |
| „ Ophthalmia neonatorum                  | .... | .... | .... | .... | .... | 31    |
| „ Puerperal pyrexia                      | .... | .... | .... | .... | .... | 35    |
| „ Nursing homes....                      | .... | .... | .... | .... | .... | 37    |
| „ Practising midwives                    | .... | .... | .... | .... | .... | 543   |

## CHILD LIFE PROTECTION.

*Inspections of Children under the Children and Young Persons Acts, and Public Health Act, 1936.*

Under these Acts inspections are carried out by the county health visiting staff on behalf of the Maternity and Child Welfare Committee.

Each child is visited at least once every three months, additional visits being made as circumstances require. A detailed report on the condition of the child is made at each inspection and these reports are scrutinised by the Deputy County Medical Officer. Should the condition of the child or its environment be unsatisfactory, the home is visited by a medical officer who makes a special report and recommends such action as is necessary.

The following is a summary of the changes in the register during the year :—

|   |    |
|---|----|
| No. of cases on register on December 31st, 1936 | 66 |
| „ of new cases                                  | 33 |
| „ Returned to parents                           | 11 |
| „ Adopted                                       | 2  |
| „ Attained nine years of age                    | 7  |
| „ Left county                                   | 7  |
| „ Transferred to new foster-parents             | 5  |
| „ of cases on register on December 31st, 1937   | 67 |

The Maternity and Child Welfare Committee insist on a yearly inspection of each school where boarders under the age of nine years are received. Nine such schools were inspected.

### *Boarded-out Children.*

Supervision of these children is carried out by the county health visiting staff. Routine visits of inspection are made to each case once every six weeks. When necessary, owing to special circumstances, more frequent visits are paid and in all cases a detailed report of the conditions found at each visit is made by the health visitor. These reports are scrutinised by Dr. Lisney and any necessary comments made before being passed on to the public assistance officer. If circumstances require it, special visits are made by a medical officer.

## ORTHOPÆDIC TREATMENT.

(Dr. A. A. Lisney, Deputy County Medical Officer).

This scheme provides for both out-patient and in-patient treatment for crippling defects among infants, pre-school and elementary school children, and adults suffering from non-pulmonary tuberculosis. All areas in the county are within comparatively easy reach of the treatment centres. The out-patient clinics at Hinckley and Coalville are controlled by the County Council and in-patient treatment is available at Coleshill Hospital. County patients also attend the Loughborough Cripples' Guild, and if in-patient treatment is necessary they are sent to Harlow Wood Hospital. Those county cases residing near Leicester attend the Leicester City Clinic as out-patients and for them in-patient treatment is available at the City General Hospital, Leicester.

All out-patient treatment is given free of charge but patients are expected to contribute towards the cost of surgical appliances and, with the exception of tuberculosis cases, in-patient treatment. The financial circumstances of the family are assessed in each case and the charges made according to a scale. In necessitous cases no charge is made.

Complete continuity of treatment exists with regard to infants and children as the same orthopædic surgeon attends both the clinics and parent hospitals, but in the case of adults suffering from non-pulmonary tuberculosis this continuity is broken, as such cases attending the Coalville and Hinckley Clinics are not admitted to Coleshill Hospital, but are transferred to the City General Hospital, Leicester, where they are treated by a different orthopædic surgeon.

During the year the orthopædic work in the county has continued successfully. The number of old standing cases dealt with at the clinics

is gradually becoming fewer and it is satisfactory to report that an increasing proportion of early defects are dealt with at the orthopædic clinics.

The following are the details of the working of the orthopædic scheme :

#### *Ascertainment.*

Patients requiring orthopædic treatment are referred to the clinics by tuberculosis medical officers, assistant school medical officers, infant welfare medical officers and general practitioners.

It is important that all orthopædic cases should receive the necessary treatment in the early stages of the defect, both from the point of view of the patient's future and of the cost incurred. The special measures in force ensuring early ascertainment, as outlined in previous reports, continue to prove satisfactory. Every case of deformity or crippling disease, however slight, encountered by the health visitors and school nurses during the course of their home and school visits is reported to the Health Department, and the parent is requested to bring the child to a clinic if one is within reach. A medical officer sees the child either at the clinic or at home and recommends the appropriate treatment.

#### *Orthopaedic Clinics and Hospitals.*

##### *(a) The Coalville Clinic.*

This clinic is administered directly by the County Council and is opened on Monday and Wednesday afternoons at 1.30 p.m. It is held at the Health Centre, Bridge Road, Coalville.

Treatment is in the hands of Mr. Allan of Coleshill Hospital, who attends one session per month, when he examines all new cases and reviews the treatment of those already in attendance.

The staff consists of a fully trained orthopædic sister, orthopædic nurse and masseuse from Coleshill Hospital, together with a member of the health visiting staff who takes charge of the clerical work, arranges appointments for the patients, and keeps the records.

With the parent hospital at Coleshill this clinic forms a complete unit for the treatment of patients from the Coalville area.

##### *(b) The Hinckley Clinic.*

This clinic is also administered by the County Council and is opened for treatment on two half-days per week, Wednesdays and Fridays at 9.30 a.m.

Mr. Allan of Coleshill Hospital, the orthopædic surgeon, attends the clinic once a month.

The staff consists of an orthopædic sister, orthopædic nurse and masseuse from Coleshill Hospital, and a member of the health visiting staff who attends to the clerical work.

(c) The Loughborough Cripples' Guild.

The Loughborough clinic is controlled by the Loughborough Cripples' Guild, which is a voluntary association, and payment is made by the County Council and Loughborough Borough Council according to the number and nature of the treatments received by patients from their areas.

This clinic is visited once a month by Mr. Malkin, orthopædic surgeon to the Harlow Wood Hospital, Nottinghamshire; the remainder of the staff consists of an orthopædic sister who attends once a week from Nottingham, one masseuse who is employed whole time and four voluntary workers.

The clinic is open part of the week for massage and other forms of treatment.

The Loughborough Cripples' Guild is associated with the Nottingham Cripples' Guild and forms a complete clinical unit with the parent hospital at Harlow Wood.

(d) Leicester City Clinic.

An arrangement exists between the County Council and the Leicester City Council for the treatment of county cases at the City Orthopædic Clinic, Richmond House, Leicester. Cases referred to the clinic live in county areas adjacent to Leicester.

All forms of out-patient treatment are available, the orthopædic surgeon in charge being Mr. Morris who is also in charge of the orthopædic wards at the City General Hospital, Leicester, which is the parent hospital.

*Additional Facilities.*

In addition to the systematic orthopædic work mentioned above, treatment is available at other centres as follows :—

(a) Leicester Royal Infirmary.

Out-patient treatment is undertaken at the orthopædic department of this hospital. No charge is made for attendance, and financial responsibility is assumed by the county authority for surgical appliances in necessitous cases according to the means of the patient.



These cases are notified to the department by the secretary of the hospital with full particulars of the nature of the disease and the treatment recommended.

(b) Rugby Orthopædic Clinic.

The County Maternity and Child Welfare Committee pays 2/6 per attendance for Leicestershire children whose treatment is undertaken by this clinic provided that :—

- (i) Application is first made to the County Medical Officer to enable the case to be visited by one of the medical staff.
- (ii) Each application is considered by the Committee after an investigation into the financial circumstances.
- (iii) Monthly reports are rendered by the officers of the clinic to the County Medical Officer.

*Provision of Surgical Appliances.*

The following arrangements are in force for the provision of surgical appliances and apparatus.

Upon application being received inquiry is made into the financial circumstances of the case and recovery of the cost is made according to a scale approved by the various committees, necessitous cases being provided for free of charge.

*After-Care Supervision.*

The after-care of patients discharged from hospital is carried out at the clinics by the same medical and nursing staff who supervised the in-patient treatment. Thus absolute continuity of the care and treatment of the cripple is ensured in most cases. When necessary cases are visited in their own homes and a report is made on the condition of the patient.

The amount that can be done for a cripple on an official basis is of necessity limited. The county scheme is made more complete by the co-operation of the voluntary association recently formed at Coalville. These voluntary workers render valuable assistance in matters of training, employment and general social welfare. They are also of great assistance in transporting orthopædic cases to and from the clinic and in visiting the homes of those who failed to keep appointments made for them.



### NURSING HOMES.

The administration of the Nursing Homes (Registration) Act, 1927, and Public Health Act, 1936, is undertaken by the County Council which is the local supervising authority for the whole county. No application has been received from a district council for delegation of powers to them under the Act.

Periodic inspections of the registered homes are carried out by Dr. Lisney and the County Superintendent Health Visitor. Before any application for a certificate of registration of a home is granted, full inquiry is made as to the suitability and qualifications of the applicant and an inspection of the premises is carried out to ensure conformation to the necessary standard.

The following are particulars concerning the administration of this section :—

|   | Nursing<br>Homes. | Maternity<br>Homes. | Nursing and<br>Maternity<br>Homes. |
|---|-------------------|---------------------|------------------------------------|
| No. of new applications for registration during 1937 .... | —                 | —                   | —                                  |
| No. of Homes registered on 31/12/37                       | 2                 | 7                   | 5                                  |
| No. of orders made refusing registration ....             | —                 | —                   | —                                  |
| No. of orders made cancelling registration ....           | —                 | —                   | —                                  |
| No. of appeals against such order....                     | —                 | —                   | —                                  |
| No. of Homes discontinued ....                            | —                 | 1                   | —                                  |

Exemption from registration under the new Act was granted in six instances, viz., five cottage hospitals and one general hospital.

### WHOLE-TIME MEDICAL OFFICER OF HEALTH.

*Local Government Act, 1933, Section 111.*

During the early part of the year two alternative schemes were prepared in accordance with the above Act, and on June 16th a meeting between members of the Public Health Committee and representatives from the district councils was held. Both schemes were explained in detail and the advantages and disadvantages of each were discussed. The whole matter was finally referred to the district councils for further discussion and each council was asked to state which scheme they preferred.

By the end of the year a solution, satisfactory to all councils, had not been found.

## NATIONAL HEALTH CAMPAIGN.

This year saw the inauguration of a national drive to increase the value of the health services, by making them better known to the population at large. The campaign opened in October, and continues into 1938.

Leicestershire's part in this nation-wide effort consisted of the following activities :—

### *Posters, Show Cards and Folders.*

Supplies of advertising matter issued by the Central Council for Health Education were distributed to the following :—The Leicestershire Insurance Committee, the County Nursing Association, schools, infant welfare centres, libraries, district and parish councils, women's institutes, adult schools, drama groups, village halls, Toc H, Rotary Clubs, and blacksmiths (Rural Community Council). Each month this material dealt with a different branch of the public health services.

### *"Health Services in Leicestershire."*

In a circular dated 30th August, 1937, the Minister of Health suggested that County Councils should make arrangements to provide information about local health services at post offices. The circular enclosed a model form giving a list of hospitals, clinics, etc., but it seemed to me that this would be of very limited value, and that a pamphlet giving some information about the scope of the health services, on more general lines, would be of greater worth.

A pamphlet was therefore prepared, which gives details of all the services available in the county, with a short commentary on the scope and purpose of each branch. Copies have been issued for reference purposes to all post offices, and also to various officials, medical practitioners, and, through infant welfare centres and women's institutes, to the general public.

### *Lectures and Talks.*

In the autumn and winter a special series of lectures on the health services and allied subjects has been given by the county health department's medical staff. These have been popular, and of real value. This year, as usual, a great many talks have been given at infant welfare centres by the medical officers and health visitors. This is a branch of child welfare work about which I have always been very keen.

## SANITARY CIRCUMSTANCES OF THE AREA.

### WATER SUPPLY.

During the year very little shortage of water was experienced throughout the whole county. The only places which experienced appreciable shortage were Broughton Astley in the Lutterworth Rural District, where the quality is also very bad, Ravenstone, Swannington, Coleorton and Worthington in the Ashby-de-la-Zouch Rural District, and Stonton Wyville and Glooston in the Market Harborough Rural District. The supply in the Ashby-de-la-Zouch Urban District and the Ashby Woulds Urban District seems to be unsatisfactory at times as far as quantity is concerned, the supply being completely suspended by the Swadlincote and Ashby Water Board during October and November from 10 p.m. to 5 a.m.

The County Council have received applications from rural district councils in the county for contribution towards the expenditure incurred by such councils in the provision of water supplies. The appendix gives the applications received.

| Authority.           | Parish.   | Estimated Cost of Scheme. | Amount of grant made by County Council. |
|----------------------|---|---------------------------|---|
| Billesdon R.D. ....  | Owston ....   | £1,350                    | £13 per annum                           |
| Blaby R.D.C. ....    | Elmesthorpe ....  | £3,425                    | £60 per annum                           |
| Mkt. Bosworth R.D.C. | Higham-on-the Hill  | £2,310                    | £59 . 10 . 0                            |
| Ashby-de-la-Zouch    | Snarestone ....   | £1,450                    | £150                                    |
| Castle Donington     | Lockington, Breedon-on-the-Hill, Isley-cum-Langley, Long Whatton & and Castle Donington | £10,600                   | £325                                    |
| Lutterworth ....     | Ullesthorpe and Claybrooke  | £8,100                    | £1,000                                  |
| Melton & Belvoir     | Wymondham, Edmondthorpe and Garthorpe   | £8,700                    | £325                                    |
| Melton & Belvoir     | Nether Broughton and Old Dalby  | —                         | £250                                    |

In each case a report by the County Architect and County Medical Officer was considered and it was resolved to recommend the County Council to make a contribution of a similar amount to that indicated by

the Ministry of Health, on condition that the rural district council also contribute a similar sum, and that application be made to the Ministry of Health for sanction of the necessary loan.

With regard to the application by the Billesdon Rural District Council for a contribution towards the cost of a scheme for the parish of Owston, it was resolved to recommend the County Council to make a contribution equivalent to a 6½d. rate on condition that the rural district council make a similar contribution, the County Council's contribution to be reviewed annually.

Investigations as to the purity of the water have been systematically pursued throughout the county. During the year 398 samples have been submitted for analysis, but of this number 256 were unsatisfactory. 124 wells were closed, 85 wells cleaned and repaired and in 822 cases a public supply was substituted for well water.

Applications for a contribution under Section 57 of the Local Government Act, 1929, have been received from the Billesdon Rural District for the parish of Owson, the Blaby Rural District for the parish of Elmeſthorpe and the Market Bosworth Rural District for the parish of Higham-on-the-Hill.

The following information shows the more important extensions or improvements carried out during the year :—

*Loughborough Municipal Borough.*

It was found necessary to extend the water mains to several estates to keep pace with building developments. The mains in Hathern have been completed.

*Ashby-de-la-Zouch Urban District.*

Extension of the water main along the Leicester Road to supply New Packington has been commenced, and this together with the extension of mains to supply the village of Blackfordby will be completed during the coming year.

*Coalville Urban District.*

Water mains have been laid throughout the Thringstone and Highfields areas, the New Swannington mains have been linked up with those at Whitwick and the main at Thornborough has been extended. Altogether 4,200 yards of 4-in. main have been laid during the year.



*Hinckley Urban District.*

During the year 1.61 miles of new water main were laid ; included in this length were the mains necessary to provide Stoke Golding with an adequate supply. Mains were laid in various parts of the district to keep pace with building development.

The new borehole in the parish of Snarestone which was decided upon in 1935 to augment the existing supply, was completed during the year, the yield from the well being 200,000 gallons per day.

*Melton Mowbray Urban District.*

Extensions to mains have been made in Sandy Lane, Scalford Road, Welby Lane, and Nottingham Road to supply new building estates. A high pressure main has been laid through the town to serve as a fire main, and two large factories have connected their sprinkler installation to this.

Chlorinating plant has been installed at Scalford, and also at the new pumping station at Holwell. Reports on samples taken since these installations indicate that satisfactory sterilization is now being effected.

*Shepshed Urban District.*

The mains have been extended 310 yards to new building estates.

*Wigston Urban District.*

Some 445 linear yards of new mains have been laid to serve the new Granville House Estate. During the year, 40 dwelling houses have had piped supply laid on to sculleries where formerly such supply was obtained from stand pipes in the yards.

*Ashby-de-la-Zouch Rural District.*

During the year No. 2 borehole at Heather was put down to a depth of 267 feet and on a 14 days' test yielded 58,000 gallons per day.

*Barrow-upon-Soar Rural District.*

The scheme for the provision of water for the parishes of Cotes and Hoton is practically completed. Mains have been laid and all the houses connected up.

*Billesdon Rural District.*

The Leicester Corporation Mains have been extended to Great Glen and 67 connections have been made.



*Blaby Rural District.*

Extensions to the main in Sharnford Road, Sapcote, for 300 yards, and over one mile to various building estates have been carried out. A six-inch main has been laid from Stoney Stanton to Elmeſthorpe, a diſtance of 4,040 yards.

*Caſtle Donington Rural Diſtrict.*

Mains have been laid in Long Whatton (Long Whatton Ward) and Belton. A ſcheme for the ſupply of water to the villages of Lockington, Iſley-cum-Langley, Breedon-on-the-Hill and Long Whatton (Diſeworth Ward) has been prepared and ſubmitted.

*Lutterworth Rural Diſtrict.*

Moſt of the property in Ulleſthorpe and Claybrook is now connected to the mains.

Lutterworth have now decided to augment their ſupply by a ſcheme from Miſterton. Tenders for this ſcheme are now being invited, a public inquiry having already been held.

*Market Harborough Rural Diſtrict.*

A ſcheme for mains ſupply to the village of Lubenham has been prepared and now awaits approval.

*Melton and Belvoir Rural Diſtrict.*

A ſcheme for the ſupply of drinking water to the village of Eaſtwell was completed and a chlorination plant installed.

In connection with the joint ſcheme (Melton Mowbray U.D.C. and Melton and Belvoir R.D.C.) the new Reſervoir at Ab Kettleby and the pumping ſtation and collecting tank at Holwell have been completed. A further pumping ſtation and collecting tank are being conſtructed at Wartnaby. Mains have been laid to the villages of Aſfordby, Holwell, Wartnaby, Long Clawſon, Hoſe, Harby, and Burton Lazars, and a ſupply of water will be available in the near future.

## RAINFALL IN 1937.

The average rainfall of Leicestershire is between 25 and 30 inches, but the eastern side is drier than the western.

The following table shows the rainfall month by month during the year at the Wigston Urban District Council's Sewage Farm, Countesthorpe Road, Wigston.

| Month          | Total Depth | Greatest Fall in 24 hours | No. of days with .01 inch or more | No. of days with .04 inch or more |
|----------------|-------------|---------------------------|-----------------------------------|-----------------------------------|
|                | Inches      | Inches                    |                                   |                                   |
| January ....   | 2.87        | .42                       | 24                                | 17                                |
| February ....  | 2.96        | .56                       | 24                                | 17                                |
| March ....     | 2.42        | .35                       | 27                                | 14                                |
| April ....     | 2.63        | .41                       | 16                                | 11                                |
| May ....       | 3.02        | .64                       | 15                                | 11                                |
| June ....      | 1.27        | .41                       | 13                                | 6                                 |
| July ....      | 3.35        | 2.40                      | 10                                | 5                                 |
| August ....    | .70         | .29                       | 5                                 | 4                                 |
| September .... | 1.14        | .34                       | 14                                | 7                                 |
| October ....   | 2.92        | .95                       | 14                                | 5                                 |
| November ....  | 1.30        | .32                       | 16                                | 7                                 |
| December ....  | 1.72        | .46                       | 25                                | 11                                |
| Total ....     | 26.30       |                           | 203                               | 115                               |

I am indebted to Mr. Stacey, the Surveyor of the Wigston Urban District, for the information with reference to the rainfall in his district.

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DRAINAGE AND SEWERAGE.

In districts regarded as well sewered, the development of new estates for building purposes has necessitated the extension of existing or provision of new sewers. The conversions of closets to the water carriage system have caused a strain on the sewage works and they have shown a tendency to become overloaded and need extension.

The County Council have agreed during the year to contribute towards the cost of sewage schemes, as shown in the following table :—

| Authority                  | Parish                 | Estimated<br>Cost of Work | Amount of Grant<br>made by County<br>Council     |
|----------------------------|------------------------|---------------------------|--|
| Barrow-on-Soar<br>R.D.C.   | Birstall ....          | £4,700                    | £110 per annum                                   |
| Barrow-on-Soar<br>R.D.C.   | Anstey ....            | £5,760                    | £125 per annum                                   |
| Barrow-on-Soar<br>R.D.C.   | Queniborough ....      | £9,350                    | £150 per annum                                   |
| Blaby R.D.C.               | Kirby Muxloe ....      | £4,550                    | £110 per annum                                   |
| Blaby R.D.C.               | Blaby and<br>Whetstone | £8,200                    | £158 per annum<br>(Blaby £120<br>(Whetstone £38) |
| Castle Donington<br>R.D.C. | Lockington ....        | £6,870                    | £157 . 10 . 0<br>per annum                       |
| Mkt. Harborough<br>R.D.C.  | Husbands<br>Bosworth   | £4,660                    | £84 per annum                                    |

The sewage works or farms are inspected and samples of sewage effluents collected. The co-operation of the official in charge of the works is sought whenever practicable in making these inspections.

During the year 68 samples of sewage effluents were brought to the laboratory for analysis.

The following are the more important extensions or improvements carried out during the year :—

*Loughborough Municipal Borough.*

Important lengths of sewer were reconstructed in the Queen's Road district.

*Ashby-de-la-Zouch Urban District.*

The extension of the sewers in Willesley Lane has been commenced.

*Hinckley Urban District.*

A relief sewer was constructed at Barwell to prevent flooding around the southern portion of the district. The Equity Estate, Earl Shilton, and the Sketchley Hill Estate, Burbage were sewered during the year.

*Melton Mowbray Urban District.*

The sewer in Dorothy Avenue has been extended to the 56 new houses being erected for the council off Welby Lane.

*Oadby Urban District.*

The main sewer has been extended from Queen Street along the London Road and Glen Road.

*Wigston Urban District.*

978 linear yards of new sewers have been laid to the Granville House Estate.

*Barrow-on-Soar Rural District (No. 1).*

Main scheme and disposal works for Thurstaston and Cropston, new disposal works at Mountsorrel have commenced and extension of the sewers in the parishes of Newtown Linford, Anstey, Quorn, Barrow-upon-Soar and Rothley for a total of 4,270 yards have been carried out.

*Barrow-on-Soar Rural District (No. 2).*

Alterations have been made to the sewers above Goscote Estate, Birstall. This was done partly to eliminate a large proportion of storm water from the foul water sewers.

*Blaby Rural District.*

Extension of sewer to St. John's and Blaby Road, Enderby and to building estates at Glenfield, Braunstone, etc.

*Castle Donington Rural District.*

Sewerage of Hemington and Lockington commenced September, 1937.

*Market Bosworth Rural District.*

A tender has been accepted to construct a new sewer at Bagworth connecting to the existing new sewer. The old sewer will thus be eliminated and the nuisance from the old filter bed will then be abated.

*Market Harborough Rural District.*

New sewers and sewage works have been installed at Glooston and Husbands Bosworth.

*Melton Mowbray Rural District.*

The re-sewering and new sewage disposal works at Nether Broughton was completed, and the re-sewering and additions to sewage disposal works

at Asfordby are nearing completion. A new sewage disposal works at Long Clawson was commenced and is nearing completion. The re-sewering and new sewage disposal works at Waltham-on-the-Wolds was commenced and alterations and additions to Goadby Marwood and Knipton sewage works were carried out. In addition a total length of 735 yards of new sewer were laid in the parishes of Plungar, Ab Kettleby, Burrough-on-the-Hill, Stathern and Rotherby.

### **POLLUTION OF RIVERS AND STREAMS.**

Under the auspices of the Ministry of Agriculture and Fisheries, investigations of the River Soar were carried out in July and September as part of the annual hydrographical survey of the Trent watershed. 14 samples were collected at each investigation at various points on the river, submitted to laboratory analysis and an estimation made of the dissolved oxygen content.

The tributaries of the River Soar have been inspected at regular intervals. 184 samples were taken for laboratory analysis in order to detect pollution.

### **GENERAL SANITATION.**

#### **CLOSET ACCOMMODATION.**

The provision of water closets wherever practicable, and the conversion of existing pail closets and privies into water closets, is recognised as being very desirable, and it is pleasing to note that there has been an increase in this good work throughout the county during the year.

The number of conversions to water closets carried out in the county districts during 1937 was 672, an increase of 225 on the year 1936.

In addition 278 privies were converted to pail closets ; this being an increase of 111 on the previous year.

There are now approximately 63,000 water closets, 16,000 pail closets and 4,500 privies in the county.

#### **PUBLIC CLEANSING.**

The importance of a proper system of public cleansing is more generally recognised than formerly and there is a definite improvement in many of the rural districts. Unfortunately in some of the villages and hamlets no provision is made for the collection of refuse, but the number of these villages is gradually diminishing.



Except as stated below, there have been no other changes in the arrangements for public cleansing throughout the county during 1937.

The following are the chief improvements in this branch of sanitary work during the year :—

*Coalville Urban District.*

A third S. & D. Freighter has been purchased for Public Cleansing.

*Hinckley Urban District.*

The system of collection of refuse in the outer wards, formerly performed by contract labour, has been changed to direct labour collection by modern mechanical vehicles.

*Ashby-de-la-Zouch Rural District.*

A scheme has been approved for scavenging by motor vehicles and direct labour to come into force on April 1st, 1938.

*Barrow-on-Soar Rural District (No. 1).*

A large portion of the district, previously done by contractors, is now done by the council's own lorries and men.

*Billesdon Rural District.*

The council have adopted direct labour and controlled tipping in 6 parishes with mechanical collection and power pump for cesspools.

*Castle Donington Rural District.*

The council has a scheme for the public cleansing of the whole district by contract which was put into operation in April.

*Market Harborough Rural District.*

Instead of various methods of collection and in some instances no collection except by individual householders and indiscriminate dumping, all house refuse from all parishes is now collected by the council's contractors and placed on council refuse tips.

*Melton and Belvoir Rural District.*

Four additional villages were added to the weekly collections of household refuse and nightsoil.

## SANITARY INSPECTION OF AREA.

The following table gives the number of premises visited during 1937, the defects or nuisances discovered, and the results of the action taken. The number of nuisances abated during the year was 10,334 notices served totalled 5,734, and legal proceedings were instituted in three cases.

| District                         | No. of premises visited | Defects or nuisances |            | No. of notices served |           | Legal proceedings                                 |
|----------------------------------|-------------------------|----------------------|------------|-----------------------|-----------|---|
|                                  |                         | No. dis. cov'd.      | No. abated | In-formal             | Statutory |   |
| MUNICIPAL.<br>Loughborough ....  | 11,734                  | 3,939                | 3,921      | 475                   | 25        | Summons issued and conviction obtained in 1 case  |
| URBAN.<br>Ashby-de-la-Zouch .... | 334                     | 216                  | 204        | 214                   | 62        |   |
| Ashby Woulds ....                | 494                     | 175                  | 310        | 254                   | 10        | Summons issued and conviction obtained in 2 cases |
| Coalville ....                   | —                       | 481                  | 402        | 443                   | 9         |   |
| Hinckley ....                    | 1,266                   | 664                  | 554        | 486                   | 14        | Summons issued and conviction obtained in 2 cases |
| Market Harborough ....           | 1,996                   | 614                  | 572        | 492                   | 3         |   |
| Melton Mowbray ....              | 375                     | 71                   | 32         | 49                    | 4         | Summons issued and conviction obtained in 2 cases |
| Oadby ....                       | 216                     | 129                  | 121        | 129                   | —         |   |
| Shepshed ....                    | 334                     | 91                   | 67         | 73                    | 1         | Summons issued and conviction obtained in 2 cases |
| Wigston ....                     | 692                     | 298                  | 253        | 282                   | 1         |   |
| RURAL<br>Ashby-de-la-Zouch ....  | 1,205                   | 450                  | 421        | 449                   | 40        | Summons issued and conviction obtained in 2 cases |
| Barrow-on-Soar, No. 1            | 1,120                   | 203                  | 183        | 149                   | —         |   |
| „ „ „ No. 2                      | 1,260                   | 166                  | 156        | 321                   | 4         | Summons issued and conviction obtained in 2 cases |
| Billesdon ....                   | 298                     | 27                   | 30         | 29                    | 3         |   |
| Blaby ....                       | 3,704                   | 940                  | 91         | 149                   | —         | Summons issued and conviction obtained in 2 cases |
| Castle Donington ....            | 635                     | 90                   | 71         | 90                    | 11        |   |
| Lutterworth ....                 | 543                     | 127                  | 56         | 56                    | —         | Summons issued and conviction obtained in 2 cases |
| Market Bosworth ....             | 2,870                   | 476                  | 399        | 198                   | 41        |   |
| Market Harborough ....           | 1,785                   | 430                  | 360        | 430                   | 1         | Summons issued and conviction obtained in 2 cases |
| Melton & Belvoir ....            | 4,418                   | 2,325                | 2,131      | 582                   | 155       |   |

## SHOPS.

The Shops Act, 1934, requires every part of a shop in which persons are employed in the business of the shop, to be suitably ventilated and maintained at a reasonable temperature, and suitable and sufficient sanitary conveniences to be provided and maintained for the use of employees. It is the duty of the district councils as part of their obligations under the Public Health Acts to enforce these provisions of the Shops Act.

Action has been taken in four urban districts and one rural district during the year. In the rural area two shops are being dealt with. In certain areas a general survey of shops has been undertaken.

## SMOKE ABATEMENT.

The sanitary inspectors have in many instances actively co-operated with the managements of various firms. During the year 182 observations have been made, and 49 nuisances were discovered; in 43 cases the nuisances were abated—in two cases by the installation of smoke abatement plant and in another case by the fixing of additional secondary air jets.

## SWIMMING BATHS AND POOLS.

The growing tendency for the young people of modern times, especially those who follow indoor and sedentary occupations, to spend a large portion of their leisure hours in the open air or in sporting recreations, has led to an increased demand for swimming baths and open air swimming pools during the past few years. The movement has been given an additional fillip by the present campaign for physical fitness. The demand has been met both by public and private enterprise, and everyone who has the health and well-being of the nation at heart, especially local public health authorities, should do all in their power to encourage the use of these baths and pools.

Swimming is a very healthful and beneficial recreation, but it is very necessary that due regard be given to the purity of the water, and local authorities in whose areas facilities for swimming and bathing are provided should take action to ensure that the baths and water are maintained at all times in a safe and attractive condition.

In this county there are 17 swimming baths and pools, of which 10 are owned by the various local authorities and 7 are privately owned. Several of the publicly owned baths are fitted with modern filtration plant, while in others the water is chlorinated or, at least, changed very frequently.

## ERADICATION OF BED BUGS.

It appears that throughout the county 18 council houses and 97 other houses were found to be infested with bed bugs during 1937. Disinfestation was undertaken in respect of these 115 houses.

The methods employed for freeing infested houses of bed bugs vary. Fumigation by means of hydrogen cyanide gas appears to be used only in one urban district, and this for furniture alone. Methods employed for eradication in the houses are fumigation with sulphur and spraying with various liquid insecticides.

## SCHOOLS.

### SANITARY CONDITIONS, AND ACTION TAKEN FOR THE PREVENTION OF INFECTIOUS DISEASE.

During the last few years particular attention has been paid by the assistant school medical officers to the hygienic conditions of schools. When carrying out routine medical inspections, the medical officer makes a report on a special form on the condition of the premises. Any defects or recommendations are then notified to the appropriate department, and in this way a great many improvements have been facilitated.

The commonest defects noted are concerned with sanitary conveniences, requiring alteration or repair ; inadequacy or disrepair of playgrounds, and defects in school furniture. These reports, however, hardly afford a true picture of the condition of the school premises throughout the county. It cannot be denied that a fair number of the school buildings still fall far below the modern standards of suitability and comfort, and with a declining school population it seems unlikely that such conditions will be remedied in the near future.

The following repairs and improvements were carried out during the year :—

|  |      |      |    |
|--|------|------|----|
| Playgrounds tar-paved and repaired                 | .... | .... | 28 |
| New flooring                                       | .... | .... | 12 |
| Electric light installations                       | .... | .... | 11 |
| Heating improvements                               | .... | .... | 7  |
| Installation of water supply                       | .... | .... | 5  |
| Conversion of out-offices to water carriage system |      |      | 3  |
| General improvements                               | .... | .... | 1  |

With regard to the prevention of infectious disease, it was necessary during 1937 to close twelve schools for periods of 5 to 15 "school" days, on account of influenza, measles, whooping cough, chicken pox and diphtheria. In addition to the ordinary measures of control of infectious disease, active immunisation against diphtheria was carried out in the schools in certain areas where the disease was prevalent. (See page 79, and the Annual Report of the School Medical Officer, 1937.)



# INSPECTION & SUPERVISION OF FOOD.

## MILK SUPPLY.

The importance of milk as an article of diet is becoming more universally recognised, and the necessity for a pure and safe supply is a problem which has been given a great deal of publicity during the last few years. Unfortunately its liability to contamination and infection makes it imperative that the methods of production and distribution should be rigidly supervised.

Methods of production, legislation and marketing have all undergone recent changes to meet the public demand for a raw milk of a high bacteriological standard of cleanliness, and the responsibility for ensuring the safety of this milk supply has entailed a vast amount of work both by county and local public health officials.

The administration of the Milk & Dairies Order, 1926, is a task which calls for the exercise of considerable discretion and tact on the part of the responsible sanitary officers.

The general terms in which the requirement of this Order are laid down are such as to preclude any hard and fast detailed ruling, which might otherwise be attempted by the uninitiated, to impose an impossible standard of uniformity upon all cowkeepers and dairymen throughout the county.

In many instances the cowkeepers and dairymen are not in a position to undertake the erection of entirely new premises, so the principal efforts of the officer concerned is devoted to the adaptation and improvement of the existing buildings, and what is sometimes equally important, to the conversion of the dairyman to proper methods of handling milk.

It is gratifying to note that both county and local officials endeavour to work in harmony with the producers, advice and assistance are offered and it is pleasing to note that a very large majority of producers welcome this friendly constructive criticism and do their very best to comply with the requirements.

The number of inspections made of farm premises by the district inspectors during 1937 was 3,179, when 906 contraventions were found: of this number 839 were remedied at the end of the year. 1,600 visits to farms were made by officers of the County Council, who work in close co-operation with the district officials.



"Surprise" samples of milk for bacteriological analysis in the county laboratory are obtained by local officials both at the farm and in the course of delivery to the consumer. Should any sample prove unsatisfactory the producer concerned is notified by the local sanitary inspector who gives advice as to the steps necessary to remedy the trouble.

The number of these samples collected during 1937 was 736 and there is no doubt that this work is proving of invaluable assistance in promoting the production of clean milk throughout the county. In addition 804 "surprise" samples of graded milk were picked up at the farms by officers of the County Council and the results of the bacteriological analysis of 2,809 samples of graded milk were obtained from other sources.

Up to the end of 1936 the results of examinations of milk samples from urban and rural districts were reported as "good," "fair," "moderate" or "bad," depending on the results of the plate count and coliform bacillus content. In January, 1937, the plate count method was superseded by the methylene blue test, and the results have been reported as "satisfactory" or "not satisfactory." After a year's experience in reporting by this method on non-designated milk it was felt that some other method of reporting was desirable, and therefore, samples of non-designated milk are now graded I., II., III. and IV.

The samples are placed in these grades in accordance with the following :—

- Grade I. The sample reaches the accredited milk standard (*i.e.*, retains the methylene blue colouration for  $4\frac{1}{2}$  hours (1st May to 31st October) and  $5\frac{1}{2}$  hours (1st November to 30th April).
- Grade II. The sample retains the methylene blue colouration for at least 2 hours but less than the time demanded for accredited milk.
- Grade III. The sample retains the methylene blue colouration for more than 30 minutes but less than 2 hours.
- Grade IV. The sample retains the methylene blue colouration for less than 30 minutes.

The presence of coliform bacillus in one hundredth of a c.c. in more than one tube out of three automatically places the sample one grade lower.

The grades are arbitrary and not provided for by any legislation, but they will assist the producer and will inform him if his samples are deteriorating, improving, or remaining stationary.

#### *Tuberculin Tested.*

During the year two licences were relinquished owing to the farmer giving up farming. On December 31st, 1937, there were 17 producers holding a "Tuberculin Tested" licence. Of these producers two hold in addition a Certificate of "Attestation" issued by the Ministry of Agriculture and Fisheries.

During the year 57 visits were paid to "Tuberculin Tested" farms of which 4 were inspections prior to the issue of the licence and 53 were routine re-inspections.

29 samples of milk were collected at the farms by officials of the County Council, 72 others from various sources were examined in the county laboratory, and the results of 116 bacteriological analyses of samples of "Tuberculin Tested" milk were received from other laboratories, making a total of 217 available results.

#### *"Accredited Milk."*

During the year the number of producers licensed to produce "Accredited" milk in this county has shown a further substantial increase, and 100 additional licences were issued. During the year 3 holders of "Accredited" licences were granted "Tuberculin Tested" licences, 2 licences were not renewed on January 1st, 1937, in 10 cases the farms were either sold or the farmers left during the year, in 2 cases the farmers died and in 1 case the licence was revoked for contraventions of the Order. This left a total of 470 producers on the register on December 31st, 1937.

Much work is entailed and regular re-inspections of farms are necessary to ensure that the requirements of the Milk (Special Designations) Order, 1936 are constantly complied with, and in 1937 the county officials paid 1,543 visits to "Accredited" farms. Of these visits 232 were inspections prior to the issue of a licence and 1,311 were routine re-inspections after a licence had been issued. When possible the re-inspections are made at the time of milking so as to watch production and to procure a sample of milk at the same time. The number of these samples collected at the farm during 1937 was 775. In addition 803 samples of milk from "Accredited" producers were examined in the county laboratory which were collected from various other sources and 1,818 results of the bacteriological analysis of samples from "Accredited" producers were received from other authorities, making a total of 3,396 available results.

During the year 135 farmers have applied for particulars. Each one of these farms has been visited in co-operation with the local sanitary inspector and a list of the requirements has been sent to the farmers and a copy to the local sanitary inspectors. 97 farmers have made definite application for a licence and 100 additional licences have been issued. Of these licences, several were applied for during the latter part of the previous year.

Considerable alterations and improvements have been effected to cowsheds and dairies, etc., prior to the granting of these licences, and in this connection the practice of making joint visits of inspection with the sanitary inspector of the district council has been continued and I am happy to say that there has been complete co-operation. This policy has resulted in a large measure of uniformity of standards throughout the county, which is so much to be desired.

#### *Pasteurised Milk.*

During the year 7 licences to pasteurise milk and 10 to sell pasteurised milk have been issued by the local sanitary authorities.

The following table shows the distribution by sanitary districts of the number of producers and those who were licensed on 31st December, 1937, to produce tuberculin tested and accredited milk :—

| Sanitary District.      | No. of<br>ungraded<br>herds | NO. OF LICENCES GRANTED<br>TO PRODUCE |                    |
|-------------------------|-----------------------------|---------------------------------------|--------------------|
|                         |                             | Tuberculin<br>tested milk             | Accredited<br>milk |
| MUNICIPAL.              |                             |                                       |                    |
| Loughborough ....       | 39                          | 1                                     | 11                 |
| URBAN.                  |                             |                                       |                    |
| Ashby-de-la-Zouch ....  | 18                          | 1                                     | 11                 |
| Ashby Woulds ....       | 13                          | —                                     | 2                  |
| Coalville ....          | 44                          | —                                     | 7                  |
| Hinckley ....           | 54                          | 1                                     | 27                 |
| Market Harborough ....  | 7                           | —                                     | 5                  |
| Melton Mowbray ....     | 19                          | —                                     | 1                  |
| Oadby ....              | 3                           | —                                     | 5                  |
| Shepshed ....           | 23                          | —                                     | 1                  |
| Wigston ....            | 14                          | —                                     | 4                  |
| RURAL.                  |                             |                                       |                    |
| Ashby-de-la-Zouch ....  | 169                         | 1                                     | 55                 |
| Barrow-upon-Soar....    | 261                         | 2                                     | 49                 |
| Billesdon ....          | 140                         | 3                                     | 32                 |
| Blaby ....              | 145                         | 1                                     | 52                 |
| Castle Donington ....   | 125                         | 1                                     | 28                 |
| Lutterworth ....        | 246                         | 1                                     | 33                 |
| Market Bosworth ....    | 334                         | 5                                     | 98                 |
| Market Harborough ....  | 132                         | —                                     | 21                 |
| Melton and Belvoir .... | 645                         | —                                     | 28                 |
|                         | 2,431                       | 17                                    | 470                |

#### MILK AND DAIRIES (CONSOLIDATION) ACT, 1915, SECTION 4.

All reports received from other local authorities showing the presence of tubercle bacilli in milk produced in the county have been investigated by the Veterinary Department under the control of the County Veterinary Officer.

During the year 31 reports were received :—Birmingham C.B.C. 23 ; Coalville U.D.C. 1 ; Leicester C.B.C. 5 ; London C.C. 1 ; Warwickshire C.C. 1.

These reports necessitated the examination of 724 milking and 107 dry cows contained in the suspected herds and in one case a second visit was necessary.

Arising from these examinations 223 samples of milk and 5 samples of sputa were taken and examined microscopically by the veterinary staff. Eight of the milk samples and 3 sputa were positive ; the remaining milk samples were forwarded to Cambridge University for biological test.

The following shows the results of the herds examined :—

|   |      |      |    |
|---|------|------|----|
| Tuberculosis found on first inspection  | .... | .... | 15 |
| Tuberculosis found on second inspection | .... | .... | 1  |

Cows which had been removed between the date of the initial sample and the veterinary examination :—

|   |      |      |      |      |      |    |
|---|------|------|------|------|------|----|
| (a) Disposed of   | .... | .... | .... | .... | .... | 31 |
| (b) Found during routine inspection of the herd<br>under the Milk and Dairies Order, 1926 | .... | .... | .... | .... | .... | 1  |

In 15 herds no symptoms of tuberculosis could be found on clinical examination. Control samples of milk taken from all the cows proved to be negative on being biologically tested.

#### SUPPLY OF MILK TO ELEMENTARY SCHOOL CHILDREN.

Milk is still supplied to children in attendance at the schools (including secondary) in the county under the same arrangements as quoted in my previous reports.

All arrangements for the supply are made by the Agricultural Committee but the standard of the milk and condition of the premises of the producers must be approved by the School Medical Officer before the contract is finally completed.

Regular samples are collected from the schools and submitted to the laboratory for bacteriological examination. Where a sample does not conform to the standard adopted by the Committee, the agricultural department is notified and the producer warned. If no satisfactory improvement is forthcoming after repeated warnings, the contract is terminated.

All the samples were, up to the 31st December, 1936, examined by the plate count method, but from the 1st January, 1937, the methylene blue test was used.



During the year 538 samples of milk were collected and bacteriologically examined in the laboratory. The results of these examinations were as follows :—

|  |      |      |     |         |
|--|------|------|-----|---------|
| Satisfactory on both tests ....              | .... | .... | 329 | (82.9%) |
| Not satisfactory on both tests ....          | .... | .... | 17  | ( 4.3%) |
| Not satisfactory on methylene blue test .... | .... | .... | 15  | ( 3.7%) |
| Not satisfactory on coliform test ....       | .... | .... | 36  | ( 9.1%) |

The majority of the milk supplied is either pasteurised or obtained from accredited farms. The proportion of pasteurised milk has again increased during the year as several accredited producers have cancelled their contracts on the ground that it is not a paying proposition.

In a number of schools in rural areas difficulties were experienced in obtaining supplies and during the year this question was considered at a joint meeting of the Medical Inspection and Agricultural Education (Joint) Committees. At this meeting it was reported that of the 278 elementary schools in the county, 208 were participating in the scheme and of the remaining 70 schools, 55 had less than 50 children on the rolls. As an outcome of this meeting, it was decided to approve the supply of loose milk to children in attendance at these small schools subject to my approval.

It was thought that this concession would encourage the supply of milk in the smaller schools, but unfortunately this provision was not taken advantage of, and only two schools are receiving loose milk. In both cases the supply is of excellent quality and is delivered daily in a sealed container. The milk is distributed by the teacher with a suitable measure and each child receives one-third of a pint in a cup.

The following returns show the amount of milk supplied to the schools during the past six years :—

|                                     | 1932   | 1933   | 1934   | 1935   | 1936   | 1937   |
|-------------------------------------|--------|--------|--------|--------|--------|--------|
| No. of schools receiving milk ....  | 174    | 179    | 201    | 209    | 211    | 237    |
| No. of children receiving milk .... | 6,870  | 6,600  | 18,503 | 14,058 | 13,672 | 15,169 |
| No. of bottles supplied weekly .... | 34,310 | 33,250 | 90,261 | 68,976 | 67,927 | 84,183 |
| No. of gallons supplied weekly .... | 1,430  | 1,385  | 3,761  | 2,873  | 2,829  | 3,507  |

As will be noted from the above figures the supply of milk has considerably increased during the year. The reasons for this increase are

probably the supply of free milk to necessitous cases and the efforts of the agricultural department to obtain supplies for the children attending the smaller rural schools.

The number of children receiving free milk is 994, a definite increase on last year's figure of 605. All these children are examined and recommended by a medical officer before they receive the extra ration of milk.

It has not been possible so far to inspect all the children yearly but efforts will be made to examine as many as possible during 1938. This will ensure that the children who still require extra nourishment on account of some degree of malnutrition, will receive it.

#### MEAT AND OTHER FOODS.

The following table shows approximately the amount of unsound or diseased food condemned and destroyed by the local sanitary inspectors during 1937.

| Area.                | Whole Carcases  |                                  |       | Part of Carcases |                                  |       |
|----------------------|-----------------|----------------------------------|-------|------------------|----------------------------------|-------|
|                      | Tuber-<br>cular | Other<br>than<br>Tuber-<br>cular | Total | Tuber-<br>cular  | Other<br>than<br>Tuber-<br>cular | Total |
| Urban Districts .... | 22              | 26                               | 48    | 640              | 683                              | 1323  |
| Rural Districts .... | 22              | 50                               | 72    | 398              | 397                              | 795   |
| Total ....           | 44              | 76                               | 120   | 1038             | 1080                             | 2118  |

#### *Slaughter Houses.*

The number of slaughter houses in the County is 281. Of these 165 are registered and 116 licensed. There is also one public abattoir.

During the year 8,383 inspections of slaughter houses were made and 10,151 inspections of meat at the time of slaughter.

#### *Meat Stalls, Shops, etc.*

Inspections of stalls where meat is exposed for sale totalled 718, meat shops and stores were inspected on 2,169 occasions and premises used for the sale of food other than meat on 894 occasions.

The number of defects discovered and remedied in the course of the above inspections numbered 66. These were mainly concerned with cleansing and limewashing of premises, structural defects and cleansing of utensils. Proceedings were instituted and convictions were obtained in 3 cases, one case was dismissed with a severe reprimand and 3 warnings were issued. These were for breaches of the Public Health (Meat) Regulations, 1924 and the Public Health Act, 1875.

### ADULTERATION OF FOOD AND DRUGS.

The administration of the Food and Drugs (Adulteration) Act and kindred Acts is a matter which should receive a considerable amount of attention by local authorities, and the protection of the public from fraud and the substitution of inferior commodities especially in poorer working class districts is very necessary.

It is obvious that no manufacturer or purveyor of food would be likely to supply deliberately an adulterated or inferior article if he knew that samples of every product made or sold for human consumption were being regularly obtained for analysis by the sampling officers.

The present legislation is rather cumbersome, and it is probable that, in the future, when consolidation takes place, methods of administration will undergo some changes. In the meantime, the various departments of local authorities who supervise the working of these Acts must not relax in their efforts to protect the public. In this county the county police are responsible for the administration of these Acts and the following is the information regarding them for the year 1937 :—

The number of samples submitted for analysis during the year was 438, of which 402 were foods and 36 drugs.

**Table showing the number of samples of each food or drug submitted.**

| FOOD OR DRUG.          |      |      | No. of samples<br>submitted for<br>analysis. | FOOD OR DRUG.               |      |      | No. of samples<br>submitted for<br>analysis. |
|------------------------|------|------|--|-----------------------------|------|------|--|
| Milk                   | .... | .... | 163  | Sausage rolls               | .... | .... | 2  |
| Pepper                 | .... | .... | 24   | Veal & ham pie              | .... | .... | 2  |
| Sausage                | .... | .... | 20   | Steak & kidney pie          | .... | .... | 2  |
| Whisky                 | .... | .... | 18   | Fruit pudding               | .... | .... | 2  |
| Ammoniated tincture of |      |      |  | Currants                    | .... | .... | 2  |
| of quinine             | .... | .... | 12   | Sultanas                    | .... | .... | 2  |
| Camphorated oil        | .... | .... | 12   | Salmon & anchovy paste      |      |      | 1  |
| Cream                  | .... | .... | 12   | Lentil flour                | .... | .... | 1  |
| Bacon                  | .... | .... | 12   | Sponge mixture              | .... | .... | 1  |
| Gin                    | .... | .... | 12   | Chicken, ham & tongue paste |      |      | 1  |
| Margarine              | .... | .... | 12   | Cornish pastie              | .... | .... | 1  |
| Coffee                 | .... | .... | 12   | Chocolate mould             | .... | .... | 1  |
| Ground rice            | .... | .... | 12   | Custard powder              | .... | .... | 1  |
| Ginger, ground         | .... | .... | 12   | Gravy salt                  | .... | .... | 1  |
| Rum                    | .... | .... | 12   | Suet, shredded              | .... | .... | 1  |
| Arrowroot              | .... | .... | 6  | Christmas pudding           | .... | .... | 1  |
| Rice                   | .... | .... | 6  | Jelly crystals              | .... | .... | 1  |
| Dried sage             | .... | .... | 6  | Pea flour                   | .... | .... | 1  |
| Olive oil              | .... | .... | 6  | Raisins                     | .... | .... | 1  |
| Tincture of iodine     | .... | .... | 6  | Dried fruits                | .... | .... | 1  |
| Baking powder          | .... | .... | 6  | Oil & Parish's food         | .... | .... | 1  |
| Lemon curd             | .... | .... | 6  |                             |      |      | —  |
| Mint, dried            | .... | .... | 6  | Total                       | .... | .... | 433  |
| Sausages (preserved)   | .... | .... | 5  |                             |      |      | —  |
| Potted meat            | .... | .... | 4  |                             |      |      |  |
| Pork pie               | .... | .... | 4  |                             |      |      |  |

Of the 163 samples of milk, 14 proved unsatisfactory, and proceedings were instituted in 1 case, the vendor being fined 10/6 and £1. 16. 6 costs. In 4 cases the vendors were cautioned, no action was taken in 2 cases, 2 vendors were notified of the results of the analysis, in 4 cases further samples were taken which proved genuine and in 1 case the particulars were reported to the Chief Veterinary Officer. The unsatisfactory sample of pepper contained carbonate of magnesia to the extent of 1.2 per cent. and the vendor was cautioned.

## PREVENTION AND CONTROL OF INFECTIOUS AND OTHER DISEASES.

### CO-ORDINATION OF HOSPITAL ACCOMMODATION.

The admission of all cases of infectious disease to the four county isolation hospitals is arranged through the central office. Any admissions after office hours are also dealt with by an official who is on the telephone at home.

A full report of the hospital treatment of infectious disease at the County Isolation Hospital, Markfield, is contained in Dr. Selby's Report (see page 89).

### REVIEW OF INFECTIOUS DISEASES.

A review of the notifications of infectious disease during the last decade shows the importance in this county of four diseases—diphtheria, scarlet fever, pneumonia and erysipelas. With regard to disease among school children, measles and influenza, which are not notifiable diseases, cause most interference with education.

#### *Diphtheria.*

During 1937, 371 cases of diphtheria were notified and there were 14 deaths; an apparent case mortality of 3.8 per cent. These figures show a marked improvement on those for the preceding year, when there were notified 386 cases and 32 deaths, a case mortality of 8.3 per cent.

The figures for 1937 are rather puzzling upon first examination. The number of notifications is only slightly less than the notifications for 1936, while the case mortality would appear to be lower than any during the previous fifteen years.

The explanation is probably that the figure 3.8% does not represent the actual case mortality at all. It was definitely laid down as early as 1921, in a report on diphtheria issued by the Ministry of Health, that notification should be limited to persons exhibiting clinical signs of the disease, whether with or without bacteriological evidence of the presence of diphtheria bacilli; but in spite of this, many practitioners continue to notify all "positive swabs" as cases of diphtheria. With the increased propaganda concerning diphtheria during the last year or two, this tendency has become more marked—alarmingly in some quarters, with



the result that the notification figure has been swelled by persons who have never been ill, and whose names should not have been included at all.

Those who have been in touch with cases treated in hospital have no hesitation in saying that the virulence of the disease, in frank clinical cases, has become more severe during the last few years. On the one hand, during 1937, there have been sent into hospital numbers of children with "positive throats," who never exhibited any other signs of the disease; and on the other, many cases, desperately ill, who needed enormous doses of antitoxin in their treatment. I am convinced, personally, that the actual case mortality is still somewhere in the region of eight per cent. ; and that if accurate figures were available, the drop in the number of cases during the last year would be found to be greater than would appear from the data before us.

Let me repeat what I have said so often during the last few months : *Mere "positive swabs" should not be notified to the Medical Officer of Health, and, except in exceptional circumstances, "positive throats" without symptoms need not be admitted to hospital.* In such a county as this, where diphtheria has been endemic for scores of years, there is probably not a single man, woman or child who could not, at some time or other, yield a positive throat swab.

When we examine the notifications for a number of years back, we find that the incidence of the disease has shown a fairly smooth and regular swing, a feature well recognised in the epidemiology of this and many other infectious conditions.

| Year                        | .... | .... | 1928 | 1929 | 1930 | 1931 | 1932 | 1933 | 1934 | 1935 | 1936 | 1937 |
|-----------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Notifications of Diphtheria |      |      | 395  | 362  | 323  | 166  | 124  | 125  | 150  | 288  | 386  | 371  |

Wave-peaks occurred in 1913 (335 cases), 1920 (465 cases), 1928 (395 cases), and 1936 (386 cases), with troughs placed regularly between them, except in the period 1920 to 1928, when there was a slight subsidiary wave. (Peak level 315 cases.) One is fairly safe in predicting, therefore, that the case-incidence will probably decline gradually during the next two or three years, again, in the ordinary course of events, reaching a high level about the year 1944. This tendency must naturally be taken into account when we attempt to assess the value of any measure of control. We will only be justified in supposing that such a measure—for example, widespread diphtheria immunisation—has been effective,

if the expected decline continues indefinitely, instead of giving place to a rising incidence after three or four years.

The distribution of cases showed that the disease was most prevalent during the last quarter of the year, and lowest in the second quarter. Of the 371 cases notified, 164 occurred in urban districts, and 207 in rural districts, which corresponds fairly closely to the distribution of population in urban and rural areas.

Among the urban districts, those most severely affected were Hinckley (47 cases), Shepshed (36 cases), Coalville (31 cases), and Wigston (19 cases). Of the rural districts, Barrow-on-Soar had 58 cases, Ashby-de-la-Zouch 49 cases, and Market Bosworth 33 cases.

Mention was made in my last annual report of the concern with which the high incidence of diphtheria in the western half of the county was regarded, and early in 1937 active immunisation was decided upon in an attempt to check the disease. I was fully aware that immunisation was not an ideal weapon in the circumstances, owing to the considerable delay to be expected in the development of immunity, but there seemed to be no other solution to the problem.

Immunisation was first carried out on behalf of the Market Bosworth Rural District Council, by members of the county council's staff. The treatment was given free to all pre-school and school children whose parents made written application for it; the age limits were fixed at from eight months to school leaving age. Mileage and cost of material were assessed at a flat rate of 3/6, which the district councils were asked to repay. The method consisted of three intra-muscular injections of Toxoid-Antitoxin Floccules ("T.A.F.") at fortnightly intervals.

The epidemic subsided very rapidly after this measure had been adopted, and, while preserving an open mind, we were so gratified by the result that we were encouraged to extend the service. Up to the present immunisation has never been undertaken by the county council's staff, except in areas where an epidemic was in progress; schemes for more general immunisation throughout the county have been discussed, but the difficulties to be overcome would be considerable.

The total number of children receiving prophylactic treatment from the county council's staff during 1937 was 1,507, distributed as follows:—

|           |      |                       |      |               |
|-----------|------|-----------------------|------|---------------|
| February  | .... | Market Bosworth R.D.  | .... | 197 children. |
| September | .... | Shepshed U.D.         | .... | 591 children. |
| October   | }    | Barrow-upon-Soar R.D. | .... | 719 children. |
| November  |      |                       |      |               |
| December  |      |                       |      |               |

The number of children involved is very small, when we consider that there are in this county over thirty-three thousand school children on the rolls of elementary schools ; but all of these children were selected cases. We carried out immunisation in areas where the disease had been most prevalent, and in these areas four out of every five school children accepted the treatment. In other words, we made direct attacks upon the disease, where it was most in evidence. In every area where this was done, the epidemic then in progress died down very rapidly—whether post-hoc or propter-hoc is a question for the argumentative.

A short study of diphtheria in Leicestershire, with special reference to immunisation, has been contributed to this report by Dr. Stopford Thompson, and the reader is referred to this for further details. ("Diphtheria in a County Area," page 111.)

### *Scarlet Fever.*

There was again a decrease in the notifications of scarlet fever, the total being 763 cases, as against 948 in 1936 and 1,205 in 1935. There were, however, 7 deaths in 1937, and only 3 in 1936. The case mortality of this disease is small, and it is chiefly important on account of its widespread prevalence among the child population. The large majority of cases are admitted to hospital, and for several years back accommodation has been very severely taxed. It is now generally admitted among epidemiologists that isolation in hospital has not been effective in reducing the prevalence of or mortality from scarlet fever ; cases should be treated in hospital only if they require special nursing and care which cannot be provided at home. When this is more generally recognised, practitioners will be able to discriminate between cases, and not, as at present, send every patient to hospital who has been labelled "Scarlet Fever." It is a pity that the accommodation and staff of fever hospitals should be over-taxed, in treating large numbers of trivial cases, when there are also severe cases which require especial care in nursing ; and absurd that we should hospitalise scarlet fever cases as a routine, while a potentially more serious disease—measles— is only sent to hospital in exceptional circumstances.

It was unnecessary during 1937 to close any school on account of scarlet fever. Cases were almost equally distributed among urban and rural districts. Of the urban districts, Loughborough headed the list with 126 cases—more than one third of all the cases occurring in urban areas. Hinckley had 70 cases, Coalville 60 and Wigston 54. Barrow-upon-Soar was the most severely affected of the rural areas, with a total of 115 cases.

Of deaths from scarlet fever, seven were among residents in rural districts, while only one occurred in an urban district. No significance can,

however, be attached to this point. Of the 46 deaths from scarlet fever which have occurred in this county during the last ten years, 17 were deaths of urban residents, and 29 of rural ; more cases of the disease have occurred, almost every year, in rural areas.

### *Pneumonia.*

An unusually large number of cases of pneumonia occurred this year—463. This is the largest number of annual notifications since 1929, when there were 513. The death-rate, as usual, was high—148, or almost one death in three cases. Nearly half the cases occurred during the first quarter of the year. In urban areas, there were 271 cases and 78 deaths ; in rural areas, there were 192 cases and 70 deaths. The case mortality would appear to have been higher in residents in rural areas.

Almost every year, pneumonia appears on the list of the seven chief causes of death. It is an infectious condition over which we can exercise very little control. In one county, arrangements have been made for a pneumonia serum service ; but medical opinion is not unanimous on the value of serum treatment in this disease. At the present time such provision must be regarded as highly experimental ; and too costly to justify its more extensive trial by public authorities.

### *Erysipelas.*

There were 101 cases of erysipelas during 1937, 60 occurring in urban and 41 in rural areas. Cases of this condition have averaged 103 per annum during the last ten years. The death-rate is low—among hospital cases, about 6 per cent., but five cases out of six are treated in the home.

### *Measles.*

Three schools were closed for an average period of 10 "school" days during 1937, on account of measles ; another was closed for 15 days on account of measles and chicken pox. In 52 other schools the attendance was abnormally low on account of measles, either alone or combined with other diseases. There were eight deaths in the county during the year due to this disease.

During the last ten years measles has accounted for 101 deaths in Leicestershire ; in the same period only 46 children have died from scarlet fever, in spite of the severe epidemic of the last few years. The seriousness of measles in the earlier age periods cannot be measured by its death-rate, and it is time that the public in general realized that measles is a greater menace than that sheep which we treat like a wolf—scarlet fever.



*Influenza.*

Five schools were closed, and 116 suffered abnormally low attendance, owing to the prevalence of influenza during 1937. Influenza was one of the seven chief causes of death during the year, accounting for 173 deaths. A similar prevalence occurred in 1933 (177 deaths), and 1929 (237 deaths). Modern research, although it has progressed considerably towards the elucidation of the mystery of true influenza, has not yet provided us with an effective weapon either in the treatment or the prophylaxis of this disease.

*Puerperal Fever and Puerperal Pyrexia.*

Thirty-five cases of puerperal pyrexia were notified during the year. There were fourteen deaths—ten from sepsis, four due to other causes.

*Gastro-Intestinal Group of Diseases.*

There were five cases of enteric fever during 1937. All were sporadic and apparently unrelated to each other.

*Diseases of the Central Nervous System.**(a) Encephalitis Lethargica.*

Three cases of encephalitis lethargica were notified—at Coalville, Osgathorpe, and Birstall.

*(b) Poliomyelitis.*

No case of this disease was notified during the year.

*(c) Cerebro-Spinal Fever.*

Eleven cases were notified in 1937. Nine were in urban districts—four at Coalville, two each at Loughborough and Melton Mowbray, and one at Hinckley.

*Diseases Locally Notifiable.**Chicken Pox.*

This disease was the cause of abnormally low attendance in 10 schools, and contributed to the low attendance rates at eight other schools.

*Ophthalmia Neonatorum.*

The following is the record for 1937 :—

| Noti-<br>fied | Cases Treated |             | Vision<br>un-<br>impaired | Vision<br>im-<br>paired | Total<br>Blind-<br>ness | Deaths |
|---------------|---------------|-------------|---------------------------|-------------------------|-------------------------|--------|
|               | At home       | In hospital |                           |                         |                         |        |
| 20            | 18            | 2           | 19                        | 1<br>(slight)           | —                       | —      |



## TUBERCULOSIS.

### REPORT OF THE CHIEF TUBERCULOSIS OFFICER.

#### *Prevalence of Tuberculosis.*

It will be noted that the number of notifications of pulmonary tuberculosis has decreased by 1 while there has been an increase in the number of deaths by 5. The figures for 1937 are :—notifications 221, deaths 162, death rate 0.54. The average numbers of the last five years are :—notifications 260, deaths 188, death rate 0.62.

There were 81 notifications of non-pulmonary tuberculosis as against 64 in 1936. The number of deaths was 40, an increase of 6 on last year and the death rate is 0.13.

The total number of notifications for 1937 is therefore 302 as against 286 last year, and the deaths 202 as against 191.

#### DETAILS OF THE SCHEME OF TREATMENT.

##### *Hospital and Sanatorium Accommodation.*

Markfield Sanatorium has been practically full the whole year. The number of beds for tuberculosis cases is 130 (male block 38, female block 34, children's block 22, advanced block 36 beds). The waiting list was very heavy during the months of June and July but during the rest of the year there was no undue delay in obtaining a bed for any patient. The work of Markfield Sanatorium is included elsewhere in this report in a separate account by Dr. Selby.

The six beds for advanced cases at Melton Mowbray Isolation Hospital were not in use after November as these beds were given up for the treatment of infectious disease and were occupied by these cases during the remainder of the year.

##### *Public Assistance Infirmaries.*

There are a certain number of shelters available at these institutions for the treatment of old and chronic cases of pulmonary tuberculosis. The beds at Market Harborough Infirmary are used for women and those at Melton Mowbray Infirmary for men. The open air shelter at the latter institution has been closed temporarily as extensive alterations are being made in the accommodation there. There are also a few beds at Loughborough Infirmary available for this type of case.

##### *Out-Patient Dispensary Work.*

For details see table 1.

The number of attendances at the dispensaries has been 5,003 which is a decrease of 167 on the number for 1936.

X-ray photographs have been taken at Markfield Sanatorium when necessary, for cases of pulmonary tuberculosis, and a certain number of cases of surgical tuberculosis have also been X-rayed during the year. The total number taken was 555 which includes 268 screenings, and this is an increase of 32 actual photographs as compared with the previous year.

The number of specimens of sputum examined was 480, a decrease of 116 on the number for 1936.

#### *Domiciliary Work.*

(i) Shelters.—About 70 shelters are available for loan to patients and this number includes two which have been in use at the Melton Isolation Hospital. The routine inspections, as heretofore, have been carried out by the County Nursing Association and during the past year 412 inspections have been made.

(ii) Nursing of advanced cases.—This part of the scheme has also been performed by the County Nursing Association, and 3,223 visits have been paid by the district nurses. This is an increase of 375 on the number for last year.

(iii) Extra nourishment.—Approximately £400 has been expended on 67 patients, practically the same amount as last year. The grant is one pint of milk per day and one dozen eggs per week to each patient. There is no doubt that the addition made to the diet by this means is a real help to the patients who receive it.

(iv) Additional help.—The cost of splints, crutches, surgical boots, travelling expenses, etc., has entailed an expenditure of £64 on 28 patients as against £42 for 26 patients last year.

The number of cases receiving dental benefit has been very small for the same reason as previously obtained, namely that dental benefit can be obtained from approved societies and from other sources.

Cod liver oil and malt has been given to numbers of suitable cases at all the out-patient dispensaries, and this is a very valuable adjunct to the nutritional side of the treatment.

Paper handkerchiefs, sputum flasks and inhalers have also been distributed.

(v) Domiciliary visits.—The tuberculosis medical officers have paid 1,389 (Dr. Coward 303, Dr. Lane 1,086) visits to patients' homes. The health visitors paid 4,796 and the district nurses 3,223 visits.

### *Surgical Tuberculosis.*

The following institutions receive surgical tuberculosis cases (bone and joint disease) from the county :—

The Leicester City General Hospital (Orthopædic wards).  
 The Warwickshire Orthopædic Hospital, Coleshill.  
 The Harlow Wood Orthopædic Hospital Mansfield.  
 The Children's Hospital Gringley-on-the-Hill.  
 The Hospital of St. Cross, Rugby.

The number of patients admitted to these institutions during the year, and the numbers remaining under treatment and other information will be found in Table 2.

Other surgical tuberculosis cases including tubercular glands, abdomen, kidney, etc., are treated at Markfield Sanatorium, and the figures concerning these will be found in the Sanatorium Report.

### *After-Care Work.*

This work is done largely by the tuberculosis medical officers, health visitors, district nursing associations, through their nurses, public assistance committees, and private agency and is, I believe, satisfactorily performed so far as the present financial circumstances will allow.

As in the past many new houses have been obtained, employment of a suitable nature procured, clothing distributed and help in many other directions given in an endeavour to consolidate the treatment given in an institution and to help not only the patients but also their relatives at the same time.

### *Public Health Act, 1925 (Section 62).*

No action has been taken under this section which deals with the compulsory removal to hospital of advanced cases of tuberculosis.

I regret to say that in March I was taken suddenly ill with streptococcal septicæmia and was in hospital for 8 weeks and unable to resume work until the following September, though a little work was done in the month of July. My work was done during my absence by Dr. Lane, Dr. Lisney and Dr. Thompson and I here record my great gratitude to them. Certain diminutions in the figures, such as the examination of contacts and domiciliary visiting, must be attributed to this long absence but the actual working of the scheme was carried out as heretofore.

N. A. COWARD,

*Chief Tuberculosis Officer.*

Table A.

Return showing the immediate results of treatment of definitely tuberculous patients discharged during the year 1937.

| Classification on admission to the Institution. | Condition at time of discharge. | Duration of Residential Treatment in the Institution. |    |     |             |    |     |              |    |     |                      |    |     |         |    |     | Grand Totals |
|---|---------------------------------|---|----|-----|-------------|----|-----|--------------|----|-----|----------------------|----|-----|---------|----|-----|--------------|
|   |                                 | Under 3 months.                                       |    |     | 3-6 months. |    |     | 6-12 months. |    |     | More than 12 months. |    |     | Totals. |    |     |              |
|   |                                 | M.  | F. | Ch. | M.          | F. | Ch. | M.           | F. | Ch. | M.                   | F. | Ch. | M.      | F. | Ch. |              |
| PULMONARY TUBERCULOSIS.                         | Class T.B. minus.               | 5   | 4  | —   | 14          | 17 | 14  | 7            | 2  | 3   | —                    | 2  | —   | 26      | 25 | 17  | 68           |
|   | Not quiescent                   | —   | 3  | —   | 1           | 3  | —   | —            | 2  | —   | —                    | 1  | —   | 2       | 8  | —   | 10           |
|   | Died in Institution             | —   | 1  | —   | —           | —  | —   | —            | —  | —   | —                    | —  | —   | —       | 1  | —   | 1            |
|   | Class T.B. plus. Group I.       | —   | —  | —   | 1           | 1  | —   | —            | 1  | —   | —                    | —  | 1   | 2       | 1  | 4   | 4            |
|   | Not quiescent                   | —   | —  | —   | —           | —  | —   | —            | —  | —   | —                    | —  | —   | —       | —  | —   | —            |
| PULMONARY TUBERCULOSIS.                         | Class T.B. plus. Group II.      | —   | 2  | 1   | —           | 1  | —   | 8            | 9  | 3   | —                    | 4  | —   | 9       | 14 | 3   | 26           |
|   | Not quiescent                   | —   | 1  | —   | 7           | 3  | —   | 8            | 11 | —   | 1                    | 2  | —   | 18      | 17 | —   | 35           |
|   | Died in Institution             | —   | —  | —   | —           | —  | —   | —            | —  | —   | —                    | —  | —   | —       | —  | —   | —            |
|   | Class T.B. Plus. Group III.     | —   | 5  | 3   | —           | 6  | 5   | —            | 6  | 6   | —                    | 2  | 1   | —       | 15 | 1   | —            |
|   | Not quiescent                   | 16  | 4  | —   | 6           | 6  | —   | 3            | —  | 1   | 1                    | 1  | —   | 26      | 11 | —   | 37           |
| TOTALS (pulmonary)                              |                                 | 28  | 16 | —   | 36          | 36 | 14  | 32           | 31 | 7   | 5                    | 10 | 1   | 101     | 93 | 22  | 216          |
| NON-PULMONARY TUBERCULOSIS.                     | Bones and Joints.               | —   | 1  | —   | —           | —  | 1   | —            | 1  | —   | —                    | —  | —   | —       | 1  | 1   | 2            |
|   | Not quiescent                   | —   | 1  | —   | —           | —  | —   | —            | —  | —   | —                    | —  | —   | 1       | 1  | —   | 2            |
|   | Died in Institution             | —   | —  | —   | —           | —  | —   | —            | —  | —   | —                    | —  | —   | —       | —  | —   | —            |
|   | Abdominal.                      | —   | —  | —   | —           | 1  | 1   | 1            | —  | —   | —                    | —  | —   | 1       | 3  | —   | 3            |
|   | Not quiescent                   | —   | 1  | —   | —           | 1  | —   | —            | 1  | —   | —                    | —  | —   | —       | —  | —   | 3            |
| NON-PULMONARY TUBERCULOSIS.                     | Other Organs.                   | 1   | —  | —   | 3           | 1  | —   | —            | 1  | —   | —                    | —  | —   | 4       | 2  | —   | 6            |
|   | Not quiescent                   | —   | —  | —   | 1           | —  | —   | —            | —  | —   | —                    | —  | 1   | 1       | —  | 2   | 2            |
|   | Died in Institution             | 1   | —  | —   | —           | —  | —   | —            | —  | —   | —                    | —  | —   | 1       | —  | —   | 1            |
|   | Peripheral glands.              | —   | —  | —   | 1           | —  | 1   | —            | —  | 4   | —                    | —  | —   | 1       | —  | 5   | 6            |
|   | Not quiescent                   | —   | —  | —   | —           | —  | —   | —            | —  | —   | —                    | —  | —   | —       | —  | —   | —            |
| TOTALS (non-pulmonary)                          |                                 | 3   | 2  | —   | 5           | 3  | 3   | 1            | 3  | 4   | —                    | —  | 1   | 9       | 8  | 8   | 25           |

NOTE : The following Observation Cases (Non-Tuberculous) were also discharged during the year, M.-9. F.-7. h.-6

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REPORT BY THE MEDICAL SUPERINTENDENT OF THE  
LEICESTERSHIRE COUNTY SANATORIUM AND ISOLATION  
HOSPITAL, MARKFIELD.

|                                | 1933 | 1934 | 1935 | 1936 | 1937 |
|--------------------------------|------|------|------|------|------|
| Beds provided .....            | 180  | 180  | 180  | 204  | 204  |
| No. of cases on 1st January    | 111  | 163  | 214  | 174  | 212  |
| No. of cases admitted .....    | 464  | 890  | 984  | 927  | 830  |
| No. of cases discharged .....  | 412  | 839  | 1024 | 889  | 836  |
| No. of cases on 31st Dec. .... | 163  | 214  | 174  | 212  | 206  |

The stress on the accommodation of the hospital has continued throughout the year 1937, and although there has been a slight decrease in the total number of patients admitted and discharged, the average number of beds occupied daily was 199, *i.e.*, 124 tuberculosis and 75 infectious diseases.

In the sanatorium, the work has progressed smoothly and further increases can be noted in the number of special treatments and investigations. The proposal to extend two of the wards to accommodate 12 extra beds, mentioned in my report for 1936, has been adopted and the cubicles are now approaching completion.

The marked prevalence of infectious diseases has persisted for the fourth year in succession, exerting constant pressure on the resources of the isolation hospital, hampered to a certain extent by the present-day difficulty in maintaining a full personnel of staff. The proportion of severe cases of diphtheria has remained high and is evidenced by the greater average dose of antitoxin and its introduction by the intravenous route in increasing frequency, but the death rate during 1937 was comparatively low. Scarlet fever remains, fortunately, a fairly mild disease, as it is at present throughout the country.

The highest number of patients under treatment at any one time was 236.

## TUBERCULOSIS.

|                               |          | 1933 | 1934 | 1935 | 1936 | 1937 |
|-------------------------------|----------|------|------|------|------|------|
|                               |          |      |      |      |      |      |
| Beds Provided                 | Men      | 52   | 52   | 52   | 56   | 56   |
|                               | Women    | 52   | 52   | 52   | 52   | 52   |
|                               | Children | 22   | 22   | 22   | 22   | 22   |
|                               | Total    | 126  | 126  | 126  | 130  | 130  |
| No. of cases on 1st January   | Men      | 48   | 51   | 49   | 44   | 52   |
|                               | Women    | 52   | 49   | 51   | 41   | 49   |
|                               | Children | 11   | 22   | 15   | 18   | 20   |
|                               | Total    | 111  | 122  | 115  | 103  | 121  |
| No. of cases admitted         | Men      | 123  | 123  | 142  | 133  | 119  |
|                               | Women    | 118  | 135  | 117  | 115  | 108  |
|                               | Children | 62   | 45   | 46   | 51   | 34   |
|                               | Total    | 303  | 303  | 305  | 299  | 261  |
| No. of cases discharged       | Men      | 120  | 125  | 147  | 125  | 119  |
|                               | Women    | 121  | 133  | 127  | 107  | 108  |
|                               | Children | 51   | 52   | 43   | 49   | 36   |
|                               | Total    | 292  | 310  | 317  | 281  | 263  |
| No. of cases on 31st December | Men      | 51   | 49   | 44   | 52   | 52   |
|                               | Women    | 49   | 51   | 41   | 49   | 49   |
|                               | Children | 22   | 15   | 18   | 20   | 18   |
|                               | Total    | 122  | 115  | 103  | 121  | 119  |

The number of beds provided remains at 130 and the average number occupied daily was 124. This degree of utilisation, 95.2 per cent., is a very high one when allowance is made for the periods between discharges and new admissions and has been consistently maintained during the 5 years the sanatorium has been open.

The average duration of treatment was 185.1 days (men 167.8, women 198.7, children 188.8), excluding those patients who did not stay for four weeks.

In the treatment, the routine regime is based primarily on prolonged rest in conjunction with an adequate balanced diet and hygienic environment. The specialised forms of treatment, although of great importance, can be applied only to a selected group of patients and in essence are designed to give a more complete but localised immobilisation of the diseased tissues or to stimulate the defensive forces of the body. Other measures which enter the field of major operative surgery are not at present being performed in the sanatorium.

Religious services are held weekly and recreation is catered for by the provision of games, entertainments including frequent "talkie" cinema shows, and a circulating library managed by the Coalville branch of Toc H.

## Average Stay of Tuberculosis Patients during 1937.

| Classification on Admission | MEN         |                   | WOMEN       |                   | CHILDREN    |                   |
|-----------------------------|-------------|-------------------|-------------|-------------------|-------------|-------------------|
|                             | No. of Pts. | Average Stay-Days | No. of Pts. | Average Stay-Days | No. of Pts. | Average Stay-Days |
| <b>Pulmonary</b>            |             |                   |             |                   |             |                   |
| T.B. Negative ....          | 25          | 160               | 32†         | 145               | 15          | 152               |
| T.B. Pos.—Group 1           | 1           | 157               | 2           | 166               | 1           | 479               |
| T.B. Pos.—Group 2           | 27          | 218               | 31          | 274               | 3           | 304               |
| T.B. Pos.—Group 3           | 45          | 134               | 26          | 161               | 1           | 318               |
| <b>Non-Pulmonary</b>        |             |                   |             |                   |             |                   |
| Bones and Joints ....       | 1           | 69                | 2           | 131               | 1           | 167               |
| Abdomen ....                | 1           | 268               | 4           | 142               | 1           | 150               |
| Other Organs ....           | 6           | 115               | 2           | 187               | 1           | 494               |
| Glands ....                 | 1           | 112               | —           | —                 | 5           | 217               |
| *Observation ....           | 9           | 41                | 7           | 21                | 6           | 30                |

\* In addition 7 patients admitted for observation were notified and retained for treatment.

† One patient admitted as negative, but on discharge the diagnosis was not confirmed.

*Artificial Pneumothorax.*

This is probably the least dangerous of the methods of enforcing adequate rest on a diseased lung and the treatment consists of the collapse of the lung by repeated injections of air through the chest wall. The average duration of treatment is preferably about 2 years, although long before then the patient will have been fit to leave the sanatorium and may have resumed his normal occupation, attending here periodically for a refill.

During 1937, the number of patients undergoing artificial pneumothorax was 37 necessitating 860 refills as compared with 31 cases (766 refills) in the previous year, and 17 cases (239 refills) in 1933.

Of these 37 cases, 6 completed the treatment, 3 left the county with arrangements made for continuation elsewhere, and 5 cases were abandoned, leaving 23 patients still under treatment at the end of the year.

*Aurotherapy.*

The injection of solutions of the salts of gold is based on the theory that some heavy metals stimulate the defensive reactions of the body against certain organisms, accelerate the formation of scar tissue and assist in the clearing of tubercle bacilli from the sputum. This treatment was instituted in a number of cases unsuitable for artificial pneumothorax and also in conjunction with that treatment.

The compounds used were crisalbine when it was possible to inject the solution directly into the bloodstream and myocrysin when injections had to be made into the muscle tissue and the total dosage aimed at was between 4 and 6 grammes according to the weight of the patient, injections being given at weekly intervals in increasing doses.

41 patients were treated by this method but in 6 cases reactions compelled abandonment and at the end of the year 8 others had not completed their course.

27 completed cases came under review, all of the positive group 2 or 3 class, *i.e.*, moderate or advanced cases with a comparatively poor outlook.

14 became quiescent.

18 became negative.

18 gained weight and had an improved blood sedimentation rate.

### *Heliotherapy.*

Treatment by artificial sunlight is reserved for those patients suffering from non-pulmonary tuberculosis and consists of the carefully graduated exposure of the whole body to the rays of a carbon-arc lamp. In certain cases, particularly of lupus of the skin, additional local irradiation of a more concentrated character is administered by a mercury-vapour lamp.

The number of cases treated, the site of the disease and the number of exposures given are tabulated below.

| Site of Disease       | No. of Cases | No. of Treatments |
|-----------------------|--------------|-------------------|
| Bones and joints .... | 6            | 173               |
| Abdomen ....          | 9            | 453               |
| Genito-urinary ....   | 11           | 374               |
| Glands ....           | 7            | 296               |
| Miscellaneous ....    | 1            | 20                |
| Total ....            | 34           | 1316              |

### *Blood Sedimentation Test.*

A specimen of blood is taken from the veins of all adult patients each month and is put up in a narrow-bore tube after being citrated to prevent clotting. The rate of fall of the red blood cells is then noted over a period of one hour and comparison with previous tests and with the normal, indicates the amount of constitutional disturbance and provides a check on the personal observations of the medical staff as to the progress and prognosis of the case.



During 1937, the number of such tests carried out was 1,458.

#### *Mantoux Tests.*

Intra-cutaneous injections of tuberculin by this method were performed on 68 occasions during the year.

#### *X-ray Department.*

Investigation by X-rays has become an integral part of the diagnosis of tuberculosis and an essential feature in the selection of cases for specialised forms of treatment, their control during its performance and in the assessment of progress of all types of case. The screening examination and report on the X-ray film is carried out by the Medical Superintendent on both in-patients and out-patients sent by the tuberculosis officers and medical officers of other clinics in the county.

A total of 1,423 examinations were carried out as compared with 865 in 1933.

|            |                                    |       |                   |
|------------|------------------------------------|-------|-------------------|
| Screening. | In-patients ....                   | 538   |                   |
|            | Sent by tuberculosis officers .... | 268   |                   |
|            |                                    | <hr/> | 806               |
| Films.     | In-patients ....                   | 324   |                   |
|            | Sent by tuberculosis officers .... | 287   |                   |
|            | Sent by other clinics ....         | 6     |                   |
|            |                                    | <hr/> | 617               |
|            | Total ....                         |       | <hr/> 1,423 <hr/> |

#### *Laboratory.*

The main procedures in the laboratory are the search for tubercle bacilli in sputa and for diphtheria bacilli in cultures although other investigations are carried out with some frequency. No trained technical assistance is provided and the great increase in the bacteriological work which has taken place in the past few years takes up a considerable part of the time of the medical staff.

The total number of examinations during 1937 was 5,116 (1,520 in 1933).

|                                      |             |
|--------------------------------------|-------------|
| Sputum for tubercle bacilli ....     | 1,157       |
| Urine for tubercle bacilli ....      | 53          |
| Effusions for tubercle bacilli ....  | 9           |
| Cultures for diphtheria bacilli .... | 3,814       |
| Smears and pus ....                  | 20          |
| Cerebro-spinal fluid ....            | 52          |
| Blood counts, etc. ....              | 11          |
|                                      | <hr/>       |
|                                      | 5,116 <hr/> |

### *Types of Case and Results of Treatment.*

A table will be found at the end of this report setting out results of treatment in the form required by the Ministry of Health : a further analysis is made below.

The number of cases completing a course of treatment in the sanatorium was 263, made up of 194 cases of adult phthisis, 22 of childhood pulmonary disease and 25 non-pulmonary disease : a further 29 cases were admitted for observation and diagnosis and of these 5 have been included in the 194 cases of adult disease and 2 in the 22 childhood disease mentioned.

The most striking points elicited are the high proportion of cases in a moderately or well advanced stage of the disease at the time of admission and the notable decrease of good results in these cases.

Thus, while of the total 194 cases of adult phthisis only 39 per cent. became quiescent and 20 per cent. died, yet of the 65 cases who were negative or in the positive group 1 class 87 per cent. became quiescent and only 2 per cent. died.

Again, 132 cases were positive and only 22 per cent. lost their sputum entirely or the bacilli from their sputum. All the early cases, less than half the moderately severe cases and only 3 per cent. of the advanced cases attained this very desirable loss of infectivity.

#### **1.—Pulmonary Tuberculosis in Adults.**

| Classification     | Number of cases | Result    |      | Gained weight | Lost sputum or bacilli |
|--------------------|-----------------|-----------|------|---------------|------------------------|
|                    |                 | Quiescent | Died |               |                        |
| T.B. Negative .... | 62*             | 82%       | 2%   | 82%           | —                      |
| T.B. Pos.—Group 1  | 3               | 100%      | —    | 100%          | 100%                   |
| T.B. Pos.—Group 2  | 58              | 40%       | —    | 83%           | 43%                    |
| T.B. Pos.—Group 3  | 71              | —         | 52%  | 17%           | 3%                     |

\* Includes 5 patients admitted for observation.

#### **2.—Pulmonary Tuberculosis in Children.**

| Classification     | No. of cases | Result    |      | Gained weight |
|--------------------|--------------|-----------|------|---------------|
|                    |              | Quiescent | Died |               |
| T.B. Negative .... | 17*          | 100%      | —    | 100%          |
| T.B. Pos.—Group 1  | 1            | 100%      | —    | 100%          |
| T.B. Pos.—Group 2  | 3            | 100%      | —    | 100%          |
| T.B. Pos.—Group 3  | 1            | —         | —    | 100%          |

\* Including 2 admitted for observation.

## 3.—Non-Pulmonary Tuberculosis.

| Classification       | No. of cases          | Result       |          |
|----------------------|-----------------------|--------------|----------|
|                      |                       | Quiescent    | Died     |
| Bones and joints.... | 3 adults<br>1 child   | —<br>100%    | —<br>—   |
| Abdomen ....         | 5 adults<br>1 child   | 40%<br>100%  | —<br>—   |
| Glands ....          | 1 adult<br>5 children | 100%<br>100% | —<br>—   |
| Other organs ....    | 8 adults<br>1 child   | 75%<br>—     | 25%<br>— |

The cases of tuberculosis of "other organs" are made up as follows :—  
6 kidney, 1 epididymus, 1 genito-urinary, 1 polyserositis.

## 4.—Cases admitted for Observation and Diagnosis.

21 adults :—5 accepted as tuberculous, retained for treatment and became quiescent : 16 discharged as not suffering from active tuberculosis.

8 children :—2 accepted as tuberculous, retained for treatment and became quiescent : 6 discharged as not suffering from active tuberculosis.

## INFECTIOUS DISEASES.

|                                | 1933 | 1934 | 1935 | 1936 | 1937 |
|--------------------------------|------|------|------|------|------|
| Beds provided ....             | 54   | 54   | 54   | 74   | 76   |
| No. of cases on 1st Jan. ....  | —    | 41   | 99   | 71   | 91   |
| No. of cases admitted ....     | 161  | 587  | 679  | 628  | 569  |
| No. of cases discharged ....   | 120  | 529  | 707  | 608  | 573  |
| No. of cases on 31st Dec. .... | 41   | 99   | 71   | 91   | 87   |

The total number of cases treated shows a further slight but welcome fall this year, the fourth of the epidemic. However, the average number of beds occupied daily was 75 and the peak total was 108.

The average age of all patients was 11 years.

*Scarlet Fever.*

|                                | 1933 | 1934 | 1935 | 1936 | 1937 |
|--------------------------------|------|------|------|------|------|
| No. of cases on 1st Jan. ....  | —    | 16   | 87   | 42   | 29   |
| No. of cases admitted ....     | 122  | 516  | 518  | 321  | 319  |
| No. of cases discharged ....   | 106  | 445  | 563  | 334  | 303  |
| No. of cases on 31st Dec. .... | 16   | 87   | 42   | 29   | 45   |

In 9 cases, the diagnosis could not be confirmed but one case of scarlet fever occurred in a patient already suffering from diphtheria.

Of the 303 cases discharged, 64 were adults and 239 were children and the average age was 10 years.

The average duration of treatment was 41 days, hospitalisation being carried out until the end of the sixth week of disease.

179 cases received intra-muscular injections of antitoxin.

2 deaths occurred in patients suffering from lobar pneumonia ; death ensued in one other patient notified as scarlet fever but actually suffering from streptococcal septicæmia.

The following complications arose during treatment.

|             |      |    |           |      |   |
|-------------|------|----|-----------|------|---|
| Otorrhœa    | .... | 22 | Pneumonia | .... | 2 |
| Mastoiditis | .... | 1  | Nephritis | .... | 1 |
| Rheumatism  | .... | 4  | Relapse   | .... | 2 |

### *Diphtheria.*

|                                | 1933 | 1934 | 1935 | 1936 | 1937 |
|--------------------------------|------|------|------|------|------|
| No. of cases on 1st Jan. ....  | —    | 23   | 11   | 28   | 50   |
| No. of cases admitted ....     | 37   | 36   | 137  | 264  | 212  |
| No. of cases discharged ....   | 14   | 48   | 120  | 242  | 221  |
| No. of cases on 31st Dec. .... | 23   | 11   | 28   | 50   | 41   |

In 7 cases, the diagnosis could not be confirmed, but 3 cases were admitted erroneously diagnosed as scarlet fever and 2 other cases arose in patients already suffering from scarlet fever.

Of the 221 cases discharged, the disease affected the fauces in 179 cases, the larynx in 8 cases and the nose in 12 cases while 15 were carriers only.

54 cases were adults and 167 children, the average age being 11 years.

The average duration of treatment was 43 days.

202 cases received antitoxin, a great proportion by both intravenous and intra-muscular routes, and the average dose was 55,000 units.

3 deaths occurred, one within a few hours and another within a few days.



Complications arising during treatment were as follows :—

|           |   |            |      |    |
|-----------|---|------------|------|----|
| Paralysis | { | Peripheral | .... | 13 |
|           |   | Cardiac    | .... | 2  |
| Relapse   |   | ....       | .... | 2  |
| Otorrhœa  |   | ....       | .... | 2  |

### *Typhoid Fever.*

12 cases were discharged during the year but the diagnosis could not be confirmed in 2 cases.

Of the 10 definite cases, 9 were infected by the bacillus typhosus and 1 by the bacillus para-typhosus B.

8 cases were adults and 4 were children, the average age being 25 years.

No deaths ensued and the average duration of treatment was 76 days.

### *Erysipelas.*

6 cases were discharged during 1937, all adults with an average age of 35 years.

The disease affected the face in 3 cases and the limbs in 3 cases.

The average period of hospitalisation was 17 days and 2 patients died (1 lobar pneumonia, 1 hypostatic pneumonia).

### *Puerperal Fever.*

15 cases were treated, 5 being accompanied by their babies.

The diagnosis was not confirmed in 3 cases.

The average age was 30 years, and the average length of stay in hospital was 24 days.

3 deaths occurred, one within a few hours and the other two within 48 hours.

### *Cerebro-spinal Fever.*

9 cases of this disease were treated.

4 were adults and 5 were children, the average age being 20 years.

The average length of treatment was 20 days ; 6 deaths ensued, 3 of which were within 24 hours of admission.

#### STAFF.

The hospital is a complete training school in tuberculosis and infectious diseases and the staff are given ward instruction and several courses of lectures in preparation for the fever certificate of the General Nursing Council and for the certificate of the Tuberculosis Association. During 1937, six successes were obtained in these examinations.

All members of the staff are tested by the Dick and Schick tests for susceptibility to infection by scarlet fever and diphtheria. In those who react to these tests, immunisation is carried out by 5 weekly doses of scarlet fever toxin or 3 fortnightly doses of toxoid-antitoxin floccules, and further tests are performed to ascertain whether the treatment has been successful.

|              |      |    |                                     |    |
|--------------|------|----|-------------------------------------|----|
| Dick tests   | .... | 42 | Immunisations against scarlet fever | 8  |
| Schick tests | .... | 45 | Immunisations against diphtheria    | 18 |

All resident staff are treated by the Medical Superintendent under the National Health Insurance Scheme and during the year the following ailments required repeated attention :—

|               |      |      |    |                           |      |      |      |   |
|---------------|------|------|----|---------------------------|------|------|------|---|
| Tonsillitis   | .... | .... | 7  | Influenza                 | .... | .... | .... | 4 |
| Miscellaneous | .... | .... | 23 | Cerebro-spinal meningitis | .... | .... | .... | 1 |

The case of meningitis proved fatal and was unfortunately that of the head gardener. No source of infection could be traced.

H. SELBY,  
*Medical Superintendent.*

## VENEREAL DISEASES.

The County Council makes provision for the treatment of Venereal Diseases by co-operation with the authorities of the Leicester Royal Infirmary. The clinics are administered by the governing body of that institution, county cases being received and treated under financial arrangements approved by the Ministry of Health. The treatment of male patients is carried out by Dr. C. Hamilton Wilkie and Dr. Bessie Symington is in charge of the female section.

### *Pathological Work.*

Bacteriological and biological work for the diagnosis and for the tests of cure of venereal diseases at the clinics is undertaken at the Leicester Royal Infirmary but a certain amount of bacteriological work for practitioners in the county is undertaken at the county laboratory.

The following are extracts from the annual reports of the medical officers who conduct the clinics for venereal diseases :—

### REPORT ON MALE VENEREAL DISEASES CLINIC FOR THE YEAR 1937, BY C. HAMILTON WILKIE, M.B., Ch.B., B.Sc.

I beg to report on the work conducted at the Male Venereal Diseases Department, Leicester Royal Infirmary during the year 1937.

### *The Treatment Centre.*

The Venereal Diseases Treatment Centre is situated at Leicester Royal Infirmary. It consists of both out-patient and in-patient departments. This is the one centre for Leicester and Leicestershire. The out-patient male clinic is held in the general out-patient department of the Infirmary at times when no other clinic is in session. Adjoining the out-patient department is an irrigation treatment room. The male in-patient department consists of one ward with six beds, a single room with one bed, a treatment room and office, etc.

The male venereal diseases staff consists of two medical officers, a senior male attendant and two male porters. The pathological department of the Infirmary conducts the major part of the pathological work of the venereal diseases department. The clerical staff and dispensers of the Infirmary render valuable assistance.

Intermediate treatment (*i.e.*, irrigations, etc.) is given daily by, or, under the supervision of, the senior male attendant from 9 a.m. to 12 noon and 5.30 to 7.30 p.m. Saturdays 9 a.m. to 1 p.m. Sundays excepted.

Examinations and treatments by the medical officers are conducted at the following times :—Children—Mondays 3 to 3.30 p.m. Adults—Mondays 3.30 to 4.30 p.m. Wednesdays and Fridays 6.30 to 7.30 p.m. Thursdays 5 to 6.30 p.m. Although these are the hours during which the doors are open to receive patients, the usual duration of a session is between two and three hours.

Acute emergency cases are seen at any time between 9 a.m. and 9 p.m.

### *Statistics.*

New cases coming to the male department for the first time numbered 722. In addition 5 cases returned, having defaulted in some previous year. (1936—new cases 732, returned defaulters, 14).

The table shown below, gives details of all cases. It has been compiled from the official report made to the Ministry of Health—Form V.D. (R) (revised), but the city and county cases have been separated and I have divided the primary syphilitic cases into two categories, sero-negative and sero-positive.

New syphilitic cases show a decided drop on the previous years; non-venereal cases, a slight drop ; and gonorrhœal cases an increase.

There were 232 cases of actual venereal disease cured during the year.

The total number of attendances for the year was 21,413 (clinic attendances 9,745 ; intermediate attendances 11,668). The total for the previous year was 20,318.

In-patients numbered 68 (1936—62), and the average in-patient days 23.2 (1936—24.5).

Age incidence of new male cases :—

|        |     |     |     |     |     |     |     |     |     |     |     |
|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Years  | —15 | —20 | —25 | —30 | —35 | —40 | —45 | —50 | —55 | —60 | —70 |
| Number | 13  | 38  | 170 | 163 | 118 | 83  | 52  | 25  | 27  | 17  | 21  |

Cases known to have had at least one previous attack of venereal disease numbered 39.

Three men had a double infection :—syphilis and gonorrhœa.



| 1937  | VENEREAL CASES |      |           |    |           |      | NOT<br>V.D. |     | Totals |      | Grand<br>Totals |
|---|----------------|------|-----------|----|-----------|------|-------------|-----|--------|------|-----------------|
|   | Syphilis       |      | Soft Sore |    | Gonorrhœa |      | T.          | C.  | T.     | C.   |                 |
|   | T.             | C.   | T.        | C. | T.        | C.   |             |     |        |      |                 |
|   |                |      |           |    |           |      |             |     |        |      |                 |
| Cases on Books January 1st, 1937 ...                    | 172            | 88   | —         | —  | 102       | 51   | 5           | —   | 279    | 139  | 418             |
| Returned Defaulters ...                                 | 4              | —    | —         | —  | —         | 1    | —           | —   | 4      | 1    | 5               |
| Syphilis Primary W.R.— ...                              | 3              | 1    | —         | —  | —         | —    | —           | —   | 3      | 1    | 4               |
| "    W.R.+ ...  | 1              | 2    | —         | —  | —         | —    | —           | —   | 1      | 2    | 3               |
| "    Secondary ...                                      | 1              | 3    | —         | —  | —         | —    | —           | —   | 1      | 3    | 4               |
| "    Latent, 1st year ...                               | —              | —    | —         | —  | —         | —    | —           | —   | —      | —    | —               |
| "    All later stages ...                               | 32             | 7    | —         | —  | —         | —    | —           | —   | 32     | 7    | 39              |
| "    Congenital ...                                     | 8              | 1    | —         | —  | —         | —    | —           | —   | 8      | 1    | 9               |
| Soft Sore ...   | —              | —    | 1         | 1  | —         | —    | —           | —   | 1      | 1    | 2               |
| Gonorrhœa (Acute & Chronic) ...                         | —              | —    | —         | —  | 214       | 81   | —           | —   | 214    | 81   | 295             |
| Non-Venereal ...  | —              | —    | —         | —  | —         | —    | 242         | 69  | 242    | 69   | 311             |
| Transfers IN ...  | 17             | 2    | —         | —  | 30        | 6    | —           | —   | 47     | 8    | 55              |
| Totals ...  | 238            | 104  | 1         | 1  | 346       | 139  | 247         | 69  | 832    | 313  | 1145            |
| Cured and N.V.D's. ...                                  | 23             | 13   | 1         | 1  | 139       | 55   | 241         | 68  | 404    | 137  | 541             |
| Ceased attendance before completion<br>of treatment ... | 29             | 14   | —         | —  | 26        | 10   | —           | —   | 55     | 24   | 79              |
| Ditto, after completion of treatment                    | 19             | 8    | —         | —  | 29        | 19   | —           | —   | 48     | 27   | 75              |
| Transferred ...   | 20             | 2    | —         | —  | 51        | 7    | —           | —   | 71     | 9    | 80              |
| On records, 31/12/37 ...                                | 147            | 67   | —         | —  | 101       | 48   | 6           | 1   | 254    | 116  | 370             |
| Attendances, seen by M.O. ...                           | 2887           | 1324 | 3         | 5  | 3529      | 1217 | 589         | 191 | 7008   | 2737 | 9745            |
| "    intermediate ...                                   | 309            | —    | —         | —  | 10107     | 923  | 268         | 61  | 10684  | 984  | 11668           |
| Totals ...  | 3196           | 1324 | 3         | 5  | 13636     | 2140 | 857         | 252 | 17692  | 3721 | 21413           |
| In-Patients ...   | 9              | 8    | —         | —  | 31        | 18   | 1           | 1   | 41     | 27   | 68              |
| Aggregate Days ...                                      | 337            | 135  | —         | —  | 778       | 307  | 16          | 2   | 1131   | 444  | 1575            |

## Pathological Work (for male department only).

|                       |          |                      |           |      |
|-----------------------|----------|----------------------|-----------|------|
| Tests for spirochætes | 8        | C.S.F. examinations  | ....      | 83   |
| Blood tests (W.R)     | .... 838 | Smears for gonorrhœa | ....      | 1044 |
| Blood tests (Kahn)    | .... 838 | Other tests          | .... .... | 11   |
| C.F.T. for Gonorrhœa  | 94       |                      |           |      |

*Defaulters and Propaganda Work.*

There are two types of defaulters, those who cease to attend before completion of the necessary treatment ("Type 1"), and those who apparently complete treatment but default before all the tests of cure have been made ("Type 2").

Naturally, Type 1 is the more serious one as regards possible spread of infection or recurrence of later and more severe complications of venereal disease.

A large percentage of Type 2 defaulters may be actually cured although all tests of cure have not been made.

During my six years of office in Leicester as senior male venereal diseases medical officer, I have concentrated on methods of reducing both types of defaulters. The extensive propaganda scheme has had, among other things, this object in view.

Twenty public lectures have now been given during the last six years ; the last one as follows :—(20th lecture) Wednesday, 17th March, Vaughan College, Leicester.

The importance of public education in the dangers which may arise from untreated or late treated venereal disease cannot be over emphasised. Ignorance in sex problems can do an enormous amount of harm and the public really are tending to become more desirous of correct knowledge in this sphere.

A survey of the two types of defaulters occurring during the last twelve years (*i.e.*, six years before extensive propaganda work and six years after), is instructive and reassuring.

Although other factors affect the results, public lectures, in my opinion, have played an important part.

An investigation has been made into the various types of defaulters, and the following is a brief summary of the results :—

|                         | 1926-1931       | 1932-1937      |
|-------------------------|-----------------|----------------|
| Type 1 (Syphilis) ....  | Average = 7.4%  | Average = 3.4% |
| Type 2 (Syphilis) ....  | Average = 10.4% | Average = 4.9% |
| Type I (Gonorrhœa) .... | Average = 9.2%  | Average = 7.3% |
| Type 2 (Gonorrhœa) .... | Average = 16.6% | Average = 9.7% |

In all types a reduction is shown.

#### *Concluding Remarks.*

The bulk of our new cases come directly to the clinic, not having been sent by their own practitioner. Nevertheless, co-operation between general practitioners and the department is increasingly good.

The initial findings, and at a later date, the progress or “cure” of the patient are in all cases communicated to the doctor concerned.

As consulting venereologist to the City General Hospital, monthly visits have been made throughout the year.

The question of the cost of running such a department as this has always been borne in mind.

The object here is to run it economically, but at the same time not to sacrifice efficiency.

No case is treated unless benefit to the patient and others connected with him can reasonably be expected.

In conclusion, I should like to acknowledge the excellent assistance and co-operation rendered by all in the Royal Infirmary and Public Health Department who are connected in any way with my Department.

The pathologist, Dr. W. W. Mackarell, does an important and extensive part of our work, and the Royal Infirmary dispensers and clerks render valuable assistance.

Within the department, my assistant, Dr. Hugh Atkinson, the male nurse, Mr. Robertson, Sister Owen and the nurses and attendants have played a big part in the year's work.

C. HAMILTON WILKIE.

REPORT ON FEMALE VENEREAL DISEASES CLINICS FOR THE YEAR 1937,  
BY BESSIE SYMINGTON, M.D., B.S.

The centres for treatment of female patients and children up to school age are situated in two places :—

1. Chief centre at the Royal Infirmary which is held three times a week.
2. Auxiliary centre in premises used especially for the purpose at St. Mary's Home, 1 Ashleigh Road, where the younger unmarried girls are seen ; also a few old patients who wish for advice after marriage.

Each centre combines :—

- (a) out-patient and in-patient departments, and
- (b) facilities for intermediate treatment.

Four out-patient clinics are held each week. Three at the Royal Infirmary on Mondays at 6—7.30 ; Wednesdays at 3.30 p.m. ; and Fridays at 3.30 p.m.

One clinic is held at St. Mary's Home on Thursdays at 5.30 p.m.

Intermediate treatment is given mornings and evenings, and in the dinner hour if necessary, by one of the sisters-in-charge at either centre.

The female in-patient department has at its disposal 16 beds, and, in addition, two cots for little girls, and cradles for babies.

At the Royal Infirmary, 7 beds—one of these for maternity cases—and two cots.

At St. Mary's Home 9 beds for young unmarried girls ; 4 of these are kept for ante- and post-natal cases.

All tests are done at the pathological department of the Leicester Royal Infirmary.

*Prophylactic Work.*

- (i) Care of the Pregnant Mother.

Close touch is kept with the Maternity and Child Welfare Department. The pregnant mother is examined and treatment is commenced as soon as possible.



Young girls who have been treated, are encouraged to come back before marriage and afterwards at the beginning of pregnancy.

Babies of the mothers treated are watched from time to time and all mothers are urged to attend some welfare centre.

(ii) Lectures.

One public lecture was given by Dr. Mary Newton Davies at the Vaughan College, accompanied by lantern slides and ended by a short film.

All patients are told the nature and cause of the trouble.

*New Cases.*

The total number of female cases asking for examination and treatment, if necessary, during 1937 was 432. Cases passed on for treatment from the previous year numbered 310. Total in all clinics 742.

Analysis of these numbers is as follows :—

New cases :

|                 |      |       |
|-----------------|------|-------|
| Royal Infirmary | .... | 403   |
| St. Mary's Home | .... | 29    |
|                 |      | <hr/> |
| Total           | .... | 432   |

Cases passed on from 1936 :

|                 |      |       |
|-----------------|------|-------|
| Royal Infirmary | .... | 260   |
| St. Mary's Home | .... | 50    |
|                 |      | <hr/> |
| Total           | .... | 310   |

|             |      |     |
|-------------|------|-----|
| Grand Total | .... | 742 |
|-------------|------|-----|

Analysis of New Patients according to District.

ROYAL INFIRMARY.

|           |      |      | City  | County | Total |
|-----------|------|------|-------|--------|-------|
| Syphilis  | .... | .... | 83    | 46     | 129   |
| Gonorrhœa | .... | .... | 206   | 67     | 273   |
|           |      |      | <hr/> | <hr/>  | <hr/> |
| Totals    | .... |      | 289   | 113    | 402   |

ST. MARY'S HOME.

|           |      |      | City  | County | Total |
|-----------|------|------|-------|--------|-------|
| Syphilis  | .... | .... | 2     | 3      | 5     |
| Gonorrhœa | .... | .... | 14    | 11     | 25    |
|           |      |      | <hr/> | <hr/>  | <hr/> |
| Totals    | .... |      | 16    | 14     | 30    |

## New Cases of :—

## Syphilis.

- 1 showed primary sore without infection of the blood.
- 11 showed primary sore with infection of the blood.
- 1 showed latent signs in the first year.
- 39 showed later stages.
- 11 were congenital cases.

## Gonorrhœa.

194 cases probably began treatment within the first year of infection.

It is impossible to state the length of time gonorrhœa has existed in a woman after she has been treated by other doctors, which is so often the case, before she is sent to the clinic.

*Not Suffering from Venereal Disease.*

143 cases have been watched carefully and finally diagnosed as free from disease. They were contacts of infected cases, or were sent from other doctors for diagnosis. Attendance of female cases—total number in all clinics 12,495 (previous year 9,581).

*Attendances Classified.*

|                 |      | City  | County | Total  |
|-----------------|------|-------|--------|--------|
| Royal Infirmary | .... | 8,811 | 2,442  | 11,253 |
| St. Mary's Home | .... | 781   | 393    | 1,174  |
|                 |      | —     | —      | —      |
| Totals          | .... | 9,592 | 2,835  | 12,427 |

Other Counties, 68.

*Results.*

The number of cases discharged after completion of treatment or after diagnosis as non-venereal has been 281.

|                 |      | Syphilis. | Gonorrhœa. | Non-Venereal. | Total. |
|-----------------|------|-----------|------------|---------------|--------|
| Royal Infirmary |      | 24        | 93         | 130           | 247    |
| St. Mary's Home |      | 13        | 13         | 8             | 34     |
|                 |      | —         | —          | —             | —      |
| Totals          | .... | 37        | 106        | 138           | 281    |
|                 |      | —         | —          | —             | —      |

Each case is watched and tested, if possible, for at least three months. Young girls and children are watched longer. The average time taken for treatment and cure is—unmarried women about 7 months ; married women 14 months.

*Defaulters.*

|                         |      |   |
|-------------------------|------|---|
| Cases of early syphilis | .... | 4 |
|-------------------------|------|---|

Cases of gonorrhœa probably infectious—

|                 |      |    |
|-----------------|------|----|
| Royal Infirmary | .... | 33 |
|-----------------|------|----|

|                 |      |   |
|-----------------|------|---|
| St. Mary's Home | .... | 3 |
|-----------------|------|---|

|       |      |    |
|-------|------|----|
| Total | .... | 40 |
|-------|------|----|

|                         |      |    |
|-------------------------|------|----|
| Cases of later syphilis | .... | 26 |
|-------------------------|------|----|

Cases who have had good treatment but failed to report :—

|                 |      |    |
|-----------------|------|----|
| Royal Infirmary | .... | 34 |
|-----------------|------|----|

|                 |      |   |
|-----------------|------|---|
| St. Mary's Home | .... | 8 |
|-----------------|------|---|

|       |      |    |
|-------|------|----|
| Total | .... | 42 |
|-------|------|----|

Letters are sent to defaulters at regular intervals. The Maternity and Child Welfare Department always gives help when asked.

At St. Mary's Home a visitor is employed, almost full time, in looking up girls, helping them get work, when necessary, and visiting the babies when put under the care of a foster mother.

*Treatment.**Syphilis.*

Is treated chiefly by disinfection of the blood by preparations of arsenic or bismuth, given by injection or by mouth. Mercury and potassium iodide are also used. Stovarsol which contains a special form of arsenic is also a useful drug.

2,651 injections have been given :—

|                 |      |       |
|-----------------|------|-------|
| Royal Infirmary | .... | 2,391 |
|-----------------|------|-------|

|                 |      |     |
|-----------------|------|-----|
| St. Mary's Home | .... | 260 |
|-----------------|------|-----|

This number includes 127 injections of tryparsamide given to old cases of disease of the nervous system.

*Gonorrhœa.*

The routine method of treatment is local disinfection of the infected parts if possible, together with prescriptions of alkalis by mouth. Other methods used in conjunction with or instead of this are vaccines used specially for cases of rheumatism and for gonorrhœal vulvitis; also complete rest in bed with tampons.

Pessaries.—This method has only been employed in special cases, or when the patient is unable to attend frequently.

#### Electrical methods.

DIATHERMY. This has been used for both urethral and cervical infections in acute and chronic cases.

More time is required for this treatment, as it cannot be carried on during the routine clinic. Electrical cauterisation has been tried in cases of rectal infection with very encouraging results.

PRONTOSIL. This drug given by injection or by mouth, is very valuable in both acute and chronic cases, but no definite report can yet be given.

The woman infected with gonorrhœa is a potential source of danger, and every attempt at disinfection is made.

#### *Children.*

Special time, after school hours, is kept one evening a week for treatment of children.

Little boys as well as girls are treated in the female department if convenient.

The mother and father of each case are told to come for examination if thought necessary.

34 new cases have been examined.

|  | City. | County. | Total. |
|--|-------|---------|--------|
| Congenital syphilis ....                 | 7     | 4       | 11     |
| Gonorrhœal vulvo-vaginitis               | 6     | 2       | 8      |
| Not suffering from venereal disease .... | 7     | 8       | 15     |
|  |       |         | —      |
|  |       | Total   | 34     |
|  |       |         | —      |

Of these, 11 are of school age, 5 from the city and 6 from the county.

All cases of acute gonorrhœal infection in children are taken into the ward for 6 weeks to 2 months.

One child was sent to the Children's Home, Waddon, Croydon, and is still there under observation.



*Ante-Natal Work.*

Co-operation with the maternity and child welfare medical officers is aimed at.

Treatment is started as soon as possible and given all through pregnancy, cases of uncertain diagnosis of gonorrhœa are watched and treated for a time and then passed on to the general practitioner or midwife in charge.

34 pregnant cases have been examined.

14 cases have been treated and watched and diagnosed "Not suffering from venereal disease." These have been sent to the doctor or midwife in charge.

3 cases after treatment were sent to the City General Hospital.

17 confinements have taken place in the maternity ward. One of these was transferred from the obstetric ward in the Infirmary.

Syphilitic cases 2—both babies apparently healthy.

Gonorrhœal cases 15.

12 healthy babies.

1 stillborn.

2 premature.

All babies whose mothers have had ante-natal treatment are watched and afterwards passed on to the child welfare centres.

*In-Patient Departments.*

The number of cases treated in the wards was 154.

|                 |      |      |       |
|-----------------|------|------|-------|
| Royal Infirmary | .... | .... | 132   |
| St. Mary's Home | .... | .... | 22    |
|                 |      |      | <hr/> |
| Total           | .... |      | 154   |

In addition 17 babies have been born alive in the Maternity Ward.

*Analysis of Cases.*

| ROYAL INFIRMARY.     |      |      | City. | County. | Total. |
|----------------------|------|------|-------|---------|--------|
| Syphilis             | .... | .... | 12    | 8       | 20     |
| Gonorrhœa            | .... | .... | 54    | 44      | 98     |
| Non-Venereal Disease | .... | .... | 12    | 2       | 14     |
| Totals               |      |      | 78    | 54      | 132    |
| ST. MARY'S HOME      |      |      | 12    | 8       | 20     |
| OTHER COUNTIES       |      |      |       |         | 2      |
|                      |      |      |       |         | 22     |

Cases treated in the wards are chiefly infectious or those with complications. Amongst those admitted have been :—secondary syphilis 6 ; acute infectious gonorrhœa in young women 57 ; acute rectal infection 2 ; acute gonorrhœal rheumatism 4 ; gonorrhœal vulvitis in little girls 8 ; maternity cases 17 ; ulceration of leg 1 ; ulceration of face 1 ; Dermatitis 1.

No major operation has been performed on any case in the ward, but more cases have been transferred from the general surgical wards after operation.

*"Follow-up" Work.*

The Maternity and Child Welfare Department is kept in touch with whenever possible and the School Medical Officer has been very good in giving help when needed.

From St. Mary's Home much work is done by the almoner—Miss Hall—who helps the girls find good lodgings, work, and suitable foster mothers for the babies when necessary.

All the personal work has been of great help and I should like to express my thanks to Dr. Mary Newton Davies, and to the sisters and nurses in charge of all departments during the past year.

BESSIE W. SYMINGTON, M.D., B.S.Lond.

## SPECIAL ARTICLES.

### DIPHTHERIA IN A COUNTY AREA.

In a recent article on Medical Progress, Robert Hutchinson compared medicine to "an army engaged in a long campaign against disease." But what an army!—this leaderless rabble, encumbered with its miscellaneous collection of blunderbusses, pop-guns, dummy rifles. One of the penalties of its lack of generalship is that progress is often delayed by the inertia of the many, and long after the ground has been adequately prepared for an attack, the main body has failed to move forward.

The control of diphtheria affords the most glaring example of such a state of things at the present time. It is over sixty years since the demonstration of the causative organism of the disease; a quarter of a century since the Schick test was introduced; twenty-three years since active immunisation was first carried out on a large scale; and for the last seven years, safe, efficient and inexpensive agents for the production of active immunity have been generally available. Yet the mortality from this disease proceeds unchecked.

Continuing the analogy with which we commenced, the purpose of this article is to examine the disposition of the enemy in Leicestershire at the present time, and to consider, briefly, the best method of attack.

#### *Diphtheria in Leicestershire—Prevalence and Distribution.*

During the fifteen years, 1922—1936, cases of diphtheria in this County averaged 273 per annum, with a yearly average of twenty deaths. In the same period, the births registered yearly averaged 4,891. It would appear, therefore, that of all children born in this County about one in eighteen suffers from diphtheria at some time during its life, and of these, one in fourteen dies of the disease.

The case mortality, which was 8.3% in 1936, has swung during the last fifteen years between a maximum of 11.2% (1923) and a minimum of 4.3% (1930), but has tended upon the whole towards an increase:—

#### **Average Case Mortality.**

|         |   |                               |
|---------|---|-------------------------------|
| 1922-26 | — | 7.4%, or 1 death in 13 cases. |
| 1927-31 | — | 6.5%, or 1 death in 15 cases. |
| 1932-36 | — | 8.2%, or 1 death in 12 cases. |

*Age Distribution.*

(a) CASES. An analysis of 824 consecutive notifications of diphtheria shows the following age incidence of cases of this disease :—

|                |      |           |        |                       |
|----------------|------|-----------|--------|-----------------------|
| Age 0— 2 years | .... | 13 cases  | 1.58%  |                       |
| 2— 5 years     | .... | 96 cases  | 11.65% |                       |
| 5—10 years     | .... | 343 cases | 41.63% | } 5-15 years<br>64.2% |
| 10—15 years    | .... | 186 cases | 22.57% |                       |
| Over 15 years  | .... | 186 cases | 22.57% |                       |

(b) DEATHS. In the ten year period 1927-1936, 189 deaths occurred, with the following age distribution :—

|                |      |            |       |
|----------------|------|------------|-------|
| Age 0— 2 years | .... | 16 deaths  | 8.4%  |
| 2— 5 years     | .... | 55 deaths  | 29.1% |
| 5—15 years     | .... | 105 deaths | 55.6% |
| Over 15 years  | .... | 13 deaths  | 6.9%  |

The peak incidence of cases was at the age 6—7 years, when 10.8% of all cases occurred. The disease takes its heaviest toll between the ages of five and ten years, though it is obvious from the two tables that the case-mortality is higher in the earlier years.

If we consider the above figures as they affect the two important classes, Pre-school, and School children, we see that 13.23% of all cases, and 37.5% of all deaths, occur before the age of school entry, while 64.2% of cases, and 55.6% of deaths, fall upon the school population.

The distribution of mortality from this disease is so important that the following tables of Chief Causes of Death at some different age periods should be of interest.

**LEICESTERSHIRE 1927-1936.**  
**Chief Causes of Death in Children and Young Adults.**

| <b>Toddler</b><br>Age 1—2 years            | <b>Pre-school Child</b><br>Age 2—5 years   | <b>School Child</b><br>Age 5—15 years     | <b>Young Adult</b><br>Age 15—25 years     |
|--|--|---|---|
| PNEUMONIA<br>28%                           | PNEUMONIA<br>17.3%                         | <b>DIPHTHERIA</b><br>13.5%                | PHTHISIS<br>39.2%                         |
| TUBERCULOSIS<br>11.5%<br>(Non-Respiratory) | VIOLENCE<br>13.1%                          | VIOLENCE<br>9.9%                          | VIOLENCE<br>12.2%                         |
| WHOOPIING<br>COUGH<br>9.6%                 | TUBERCULOSIS<br>(Non-Respiratory)<br>12.0% | TUBERCULOSIS<br>(Non-Respiratory)<br>8.8% | Heart Disease<br>6.4%                     |
| Influenza<br>5.9%                          | <b>DIPHTHERIA</b><br>9.8%                  | HEART DISEASE<br>5.9%                     | Tuberculosis<br>(Non-Respiratory)<br>5.5% |
| Violence<br>5.3%                           | Measles<br>4.9%                            | Phthisis<br>5.2%                          | Pneumonia<br>3.9%                         |
| Bronchitis<br>4.9%                         | Whooping Cough<br>4.4%                     | Pneumonia<br>5.2%                         | Influenza<br>2.3%                         |
| Measles<br>4.7%                            | Influenza<br>4.3%                          | Appendicitis<br>4.4%                      | Nephritis<br>2.3%                         |
| <b>Diphtheria</b><br>2.04%                 |  |   | <b>Diphtheria</b><br>0.31%                |
| of<br>489 deaths                           | of<br>565 deaths                           | of<br>851 deaths                          | of<br>1,287 deaths                        |

Tables of Chief Causes of Death are of little value unless related to age at death, and are apt to be misleading. For example, Cancer being a condition which generally occurs in later adult life, and one over which present knowledge gives us but little control, its advanced position on the list of causes of death at all ages might be regarded, not as reason for concern, but rather for satisfaction. But in the tables given above, there is hardly a single condition which is not capable of some measure of control.

Like successive waves of an attacking force they come over, each taking its toll—first pneumonia, then the perils of the road and streets, then diphtheria, then phthisis. *Diphtheria is the commonest single cause of death among school children.* It is also the ugliest of them all. Masquerading as anything rather than the killing disease that it is, it creeps into a child's throat and has firmly established itself before the parents become sufficiently alarmed to call in the doctor. It has been shown that the mortality from diphtheria is largely dependent on the promptitude with which adequate serum treatment is begun, the fatality rate being nil if antitoxin is given on the first day of the disease, but increasing rapidly with delay. The average fatality rate in Leicestershire during the last fifteen years has been 7.3%, which corresponds with the mortality



which results when serum treatment is delayed to between the third and fourth day. It would appear, therefore, that upon the average, cases of diphtheria in this county have been ill for at least two, and probably three, days before the physician is called in.

*Immunisation as a Method of Control.*

During 1937, immunisation of school and pre-school children was carried out in certain areas in the county where an epidemic was either in progress, or appeared to be imminent. This was done, a gesture of despair, because of the failure of the usual methods of control. Nobody would pretend that a time when the disease had actually assumed epidemic form was an ideal moment for the application of a measure which can only offer very delayed protection. Experience, however, of the attitude of the people of Leicestershire to vaccination, had made one sceptical of their response to the offer of immunisation except in the presence of the disease itself.

The following analysis of results is offered as an indication of three things—the attitude of the population to the offer of immunisation ; the feasibility of using more than “one shot” on a large scale ; and the effects of the treatment in face of an epidemic. Let it be understood immediately that in the opinion of the writer, to immunise only at epidemic times is to misuse a valuable weapon, and to run the risk of causing it to fall into unmerited disrepute. At the same time, as shown below, it would appear that its value in such circumstances is by no means small.

The following table affords a comparison between the number of children on the rolls, and the number of school children actually accepting treatment (*i.e.*, receiving at least one injection). These numbers do not include pre-school children or children from other schools or areas, treated at the same time.

**Percentage of School Population Immunised.**

| DISTRICT   | Total on<br>School<br>Rolls | Total Accepting<br>IMMUNISATION<br>(School Children only) | PERCENTAGE |
|--|-----------------------------|---|------------|
| Copt Oak ....<br>(one school)                      | 32                          | 23  | 72%        |
| Shepshed ....<br>(six schools)                     | 760                         | 576   | 76%        |
| Woodhouse Eaves ....<br>(one school)               | 110                         | 97  | 88%        |
| Rothley ....<br>(two schools)                      | 218                         | 197   | 90%        |
| Quorn ....<br>(two schools)                        | 242                         | 192   | 79%        |
| TOTAL ....<br>(five districts)<br>(twelve schools) | 1,362                       | 1,085   | 79.7%      |

The percentage of children accepting immunisation (almost 80%) compares very favourably with the average attendance in the schools—88% in 1937—especially as it is known that considerable numbers at Shepshed, Rothley and Quorn were treated by their own private practitioners, and did not, therefore, come under the scheme. These figures are really remarkable when we consider Leicestershire's unenviable reputation as an Anti-inoculation County; and when we recollect that in all England, Chester City's immunisation record stands highest for any large area, with 10 per cent. of the total population, and about 45 per cent. of the child population, immunised.\*

\* Figures quoted from "The Medical Officer," 26th March, 1938.

The method used consisted of three intra-muscular injections of Toxoid-Antitoxin Floccules (T.A.F.) at fortnightly intervals. The objection has frequently been raised to this method that children, having experienced one dose, may be unwilling to have a second or third. The following statistics, however, will dispose of that contention, especially if one considers that a certain proportion of children will inevitably be prevented by illness or other unavoidable cause from keeping their appointments :—

| THREE-SHOT METHOD : CHILDREN COMPLETING FULL COURSE |                |                       |                |               |
|---|----------------|-----------------------|----------------|---------------|
| DISTRICT  | TOTAL CHILDREN | CHILDREN WHO RECEIVED |                |               |
|   |                | Full Course           | Two Injections | One Injection |
| Markfield ....                                      | 101            | 101 (100%)            | —              | —             |
| South Charnwood ....                                | 39             | 39 (100%)             | —              | —             |
| Copt Oak ....                                       | 62             | 62 (100%)             | —              | —             |
| Shepshed ....                                       | 624            | 603 (96.6%)           | 10             | 11            |
| Woodhouse Eaves....                                 | 182            | 181 (99.4%)           | 1              | —             |
| Rothley ....  | 280            | 271 (96.8%)           | 2              | 7             |
| Quorn ....  | 260            | 244 (93.8%)           | 6              | 10            |
| GRAND TOTAL ....                                    | 1,548          | 1,501 (97%)           | 19             | 28            |

Actually, very little difficulty was experienced, even with nervous children. Whole classes being immunised together, the children took it as a matter of course, especially after the first injection, and when parents were not present. One recalls a certain pair of twins, of tender years and susceptibility, one huddled in one corner screaming "Billy first," and the other in the opposite corner—"Jackie first," but such instances were

exceptional. Dozens of babies in arms were immunised, who never moved or looked at the doctor when the injection was given.

With regard to reactions after immunisation, a few complaints—a trifling proportion of the 4,569 injections given—were made that the arm was swollen and tender during the twenty-four hours after treatment. In every case this subsided rapidly. In one or two instances there was a mild general reaction accompanied by a rise of temperature. As all such complaints were quite isolated occurrences, and abscess formation was never recorded, faulty technique could be ruled out, and such reactions must have been due to a personal factor. It is interesting to recall that in carrying out the Schick Reaction, in which diphtheria toxin is injected intradermally, giant pseudo-reactions sometimes occur, which are supposed to indicate that the individual is immune. (Dudley. Med. Research Council Spec. Report Series, 1923.) These pseudo-reactions are more common in adults than in children. Our "reactions" were commonest in older children, and no complaints were ever received about such occurrences in infants. The writer is inclined to think that swelling and tenderness, occurring within a few hours of injection and subsiding rapidly, may be closely related to the phenomenon of "pseudo-reaction," and be an indication of a degree of natural immunity.

As to the effect of immunisation in controlling the outbreaks, no definite conclusions are possible from the data. With four-fifths of the susceptible population accepting immunisation, it would be idle to draw a comparison between cases occurring among immunised and non-immunised persons.

The following table shows the weekly number of cases of diphtheria from four areas, *admitted to hospital*, beginning with the first case admitted from each area in 1937. (Cases in adults, and "positive swabs," excluded). Asterisks indicate the week during which immunisation was begun (\*) and the week in which it was completed (\*\*).

| Week of Outbreak                       | SHEPSHED   | WOODHOUSE EAVES | ROTHLEY   | QUORN     |
|--|------------|-----------------|-----------|-----------|
| Began week ending                      | Sept. 11th | Oct. 2nd        | Oct. 16th | Nov. 20th |
| 1st                                    | 4          | 2               | 2         | 1         |
| 2nd                                    | 8*         | —               | 1         | 2         |
| 3rd                                    | 1          | 2*              | 2         | 2         |
| 4th                                    | 1          | —               | —*        | 2*        |
| 5th                                    | —          | 5               | —         | 6         |
| 6th                                    | 3**        | —               | —         | —         |
| 7th                                    | 1          | —**             | —         | —         |
| 8th                                    | 7          | —               | —**       | 1         |
| 9th                                    | 1          | 1               | —         | 1**       |
| 10th                                   | —          | —               | —         | —         |
| 11th                                   | —          | —               | 1         | 1         |
| Finish week ending                     | Nov. 20th  | Dec. 11th       | Dec. 25th | Jan. 29th |
| Further cases to date April 30th, 1938 | Nil        | Nil             | Two       | Nil       |

As evidence that immunisation affects the course of epidemics this table would be quite valueless. If, however, we assume for the moment that immunisation helped to abort an epidemic in each of these areas, then it would appear that it is much more rapid in its action than we have been led to believe by the post-Schick method of testing.

In biological experiments of this kind, unfortunately, we have no certain method of assessing the value of treatment. Statistics are notoriously misleading.

*Diphtheria Immunisation in County Areas.*

In reply to a question in the House of Commons in July, 1937, the Minister of Health stated that "some action with regard to immunisation against diphtheria" was being taken by five counties in England and Wales.

In considering schemes for immunisation, due attention should be paid to certain points :

(a) Unless a certain proportion of the child population—usually estimated as 35 per cent.—accept immunisation, the community will not be adequately protected. There is evidence to show that a smaller proportion of immunised children increases the carrier rate and, consequently, the danger to the unprotected.

(b) Recent investigations\* have thrown grave doubt upon the efficacy of the One-shot method.

\* See Bousfield, "Medical Officer," January, 1938.

(c) It will be obvious that the establishment of small, isolated protected communities will have but little effect upon the incidence of the disease in the country as a whole. The larger the population affected by schemes, the greater the benefit to the people.

These requirements will be most easily satisfied, in county areas, by comprehensive schemes embracing the county as a whole, using a reliable two or three shot method. Our experience in Leicestershire has shown that it is possible to get a high proportion of consents with very little propaganda, and that a method involving three doses presents little difficulty in practice.

County Authorities are in a peculiar position with regard to immunisation. There is no specific mention of diphtheria prophylaxis in any Act, but two sections of the Public Health Act, 1936, apply :—

Sec. 117 (1). "A local authority may, with the approval of the Minister, provide a temporary supply of medicine and medical assistance for the poorer inhabitants of their district."

Sec. 204. This replaces Section 1 of the Maternity and Child Welfare Act, 1918, and under this section the County Council may, with the Minister's sanction, provide a non-domiciliary service for children under five years of age.



The "local authority" referred to in the first section means the council of a borough, urban district, or rural district. In practice this means that a County Council cannot provide for immunisation of school children except indirectly—through the district authorities.

Incidentally, at the present time, immunisation, to quote the usual statement from the Ministry of Health, is "held to be outside the normal functions of a local authority."

The impression which one receives is that immunisation is still *sub judice*. How long must this continue? In this respect we are very far behind our friends on the other side of the Atlantic, and no reasonable person who considered the evidence could pretend that the results, for example, in New York and Montreal can leave much doubt about the efficacy of large-scale prophylaxis.

Surely it is time that "the leaderless army" had a more definite guide in this matter? If the imposition of driving tests, and other measures designed to lower the mortality from road accidents, were left to the enterprise of district authorities, the foolishness of such an attitude would be obvious. The analogy is a good one—driving tests and immunisation have both been attacked as "experimental," there is the possibility in both cases of interference with the "liberty of the subject." But there is this difference—that if immunisation were universally adopted, the effect upon the mortality from diphtheria would be rapid and complete.

A. W. STOPFORD THOMPSON.

*Assistant County Medical Officer.*

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## THE FIRST FIVE YEARS OF THE COUNTY SANATORIUM AND ISOLATION HOSPITAL, MARKFIELD, 1933-1937.

The Hospital was officially opened by Sir George Newman, Chief Medical Officer of the Ministry of Health on September 22nd, 1932. Subsequent equipment and staffing proceeded rapidly, enabling patients to be admitted on November 1st, followed by evacuation of the Mowsley Sanatorium and Hinckley and Coalville Residential Dispensaries and withdrawal of patients from Creaton Sanatorium, Northamptonshire.

All the Sanatorium did not come into full usage until the year 1933, while in the Isolation Hospital, admissions were at first limited to scarlet fever, and the diphtheria ward was not needed until late in the year. Since then, the whole Hospital has been kept at full pressure ; 4 additional beds have been brought into use in the tuberculosis wards and further extensions of 12 beds are now being built : increases in the numbers of special treatments and investigations have taken place annually ; and the prolonged epidemic prevalence of infectious diseases has led to considerable administrative difficulties and necessitated the provision of a convalescent ward of 20 beds.

During the five years, a total of 4,095 cases of tuberculosis and infectious diseases were admitted and 4,000 discharged, giving an annual average of 819 and 800 respectively.

### SANATORIUM.

Tuberculosis cases discharged number 1,463, an annual average of 292, and during the whole period 95.6 per cent. of the beds were occupied daily.

The average duration of treatment is being extended satisfactorily, having increased from 128.7 to 185 days.

The number of patients undergoing treatment by artificial pneumothorax has risen from 17 to 37 and a total of 2,792 refills have been given (annual average 558).

"Gold" treatment has been instituted in increasing numbers of patients and 100 cases have completed a course of injections, usually of at least 15 weekly doses. Of these 100 cases, 36 per cent. became quiescent and 64 per cent. of the positive cases lost their sputum altogether or the bacilli from their sputum.

Estimations of the red-blood-cell sedimentation rate has been carried out each month on all adults, totalling 6,535 (annual average 1,307).

Tuberculin skin tests by the intra-cutaneous Mantoux method have been performed in 279 cases, mainly for the diagnosis of the disease in children and those adults admitted for observation.

Artificial sunlight irradiation was not carried out with any frequency until 1934 and since then 4,333 exposures have been given (annual average 1,084).

The number of investigations performed in the X-ray department and the laboratory has increased from 865 to 1,423 and from 1,520 to 5,116 per annum respectively.

The fate of adults suffering from pulmonary tuberculosis is of the greatest possible interest and analysis of the immediate results of treatment during the past 5 years elicits the following points:—

1,111 cases of adult phthisis completed a course of Sanatorium treatment; 172 (16 per cent. died); of the remaining 939 cases, 699 (74.5 per cent.) were improved and 412 (44 per cent.) became quiescent.

778 cases were positive, *i.e.*, 70 per cent. of the total number and of these 224 (28.4 per cent.) became negative or lost their sputum entirely. Attention has previously been drawn to the marked influence played by the extent of the disease on the final result.

114 cases were admitted for observation owing to the difficulty in arriving at a diagnosis and 22 were notified and accepted for treatment.

#### ISOLATION HOSPITAL.

Cases of infectious diseases totalled 2,644 admissions and 2,537 discharges giving annual averages of 528 and 507.

*Scarlet Fever.* The course of the epidemic is illustrated by the increase in the number of cases discharged from 106 in 1933 to 563 in 1935, and the subsequent decrease to 303 in 1937.

The total number of cases was 1,751 (average 350) and 60 per cent. received injections of serum. The disease has been of a comparatively mild nature although the incidence of complications of a septic nature has undoubtedly been influenced by the unavoidable degree of overcrowding incidental to an epidemic. 4 deaths occurred, 2 being due to lobar

pneumonia, 1 to a measles broncho-pneumonia and only 1 to a severe form of scarlet fever.

*Diphtheria.* The incidence of this disease was low until 1936 and is falling somewhat again although the proportion of the severe type remains high.

The total number of cases was 645 (annual average 129) and the duration of treatment was 45 days. The average dose of antitoxin has increased from 24,000 units in 1933 to 55,000 units in 1937. The average mortality was 5.8 per cent. but it must be noted that half the deaths occurred within 24 hours of admission.

*Puerperal Fever.* 36 cases of this disease have been treated, after exclusion of all cases of mistaken diagnosis, and in about half the number the baby accompanied the ill mother and was retained during the period of treatment. In 6 cases death ensued.

*Cerebro-Spinal Meningitis.* 17 cases have been treated, and in spite of repeated drainage and injection of serum by all three routes, (intramuscular, intravenous and intrathecal), 9 deaths occurred, 6 of which were within 24 hours of admission.

*Erysipelas.* A total of 46 cases have been discharged and 3 patients died.

*Typhoid Fever.* 30 cases of this disease have been treated and in 3 cases death occurred.

#### STAFF.

The Hospital has been recognised by the General Nursing Council as a complete training school for their registrable fever certificate and by the Tuberculosis Association for training in tuberculosis. The periods of training are 3 years for probationer nurses for both certificates while state registered nurses employed as sisters and staff nurses can train for the fever certificate in 1 year and for the tuberculosis certificate in 2 years. During the 5 years 36 examination successes were obtained.

277 Dick tests and 299 Schick tests have been performed and 47 members of the staff have been immunised against scarlet fever and 98 against diphtheria. Only 4 cases of diphtheria, 3 of scarlet fever and 2 of tuberculosis have occurred in members of the staff during the 5 years.

H. SELBY,  
*Medical Superintendent.*



T.B.1.—Return shewing the work of the Tuberculosis Dispensaries during the year 1937.

| Diagnosis.  | PULMONARY. |     |          |     | NON-PULMONARY. |     |          |     | TOTAL.  |     |          |     |
|---|------------|-----|----------|-----|----------------|-----|----------|-----|---------|-----|----------|-----|
|   | Adults     |     | Children |     | Adults         |     | Children |     | Adults. |     | Children |     |
|   | M          | F   | M        | F   | M              | F   | M        | F   | M       | F   | M        | F   |
|   |            |     |          |     |                |     |          |     |         |     |          |     |
| A.—New Cases examined during the year (excluding contacts) :—   |            |     |          |     |                |     |          |     |         |     |          |     |
| (a) Definitely tuberculous ...                                  | 75         | 91  | 6        | 10  | 18             | 14  | 6        | 3   | 93      | 105 | 12       | 13  |
| †(b) Diagnosis not completed ...                                | ...        | ... | ...      | ... | ...            | ... | ...      | ... | 16      | 12  | 7        | 8   |
| (c) Non-tuberculous ...   | ...        | ... | ...      | ... | ...            | ... | ...      | ... | 148     | 169 | 70       | 41  |
| B.—Contacts examined during the year :—                         |            |     |          |     |                |     |          |     |         |     |          |     |
| (a) Definitely tuberculous ...                                  | 8          | 9   | 3        | 1   | —              | 1   | 3        | 2   | 8       | 10  | 6        | 3   |
| †(b) Diagnosis not completed ...                                | ...        | ... | ...      | ... | ...            | ... | ...      | ... | 6       | 2   | —        | 1   |
| (c) Non-tuberculous ...   | ...        | ... | ...      | ... | ...            | ... | ...      | ... | 21      | 36  | 52       | 56  |
| C.—Cases written off the Dispensary Register as                 |            |     |          |     |                |     |          |     |         |     |          |     |
| (a) Recovered ...   | 9          | 15  | 7        | 7   | 2              | 4   | 7        | 6   | 11      | 19  | 14       | 13  |
| (b) Non-tuberculous ...   | ...        | ... | ...      | ... | ...            | ... | ...      | ... | 188     | 221 | 133      | 103 |
| D.—Number of Persons on Dispensary Register on December 31st :— |            |     |          |     |                |     |          |     |         |     |          |     |
| (a) Definitely tuberculous ...                                  | 476        | 508 | 83       | 73  | 85             | 71  | 88       | 73  | 561     | 579 | 171      | 146 |
| †(b) Diagnosis not completed ...                                | ...        | ... | ...      | ... | ...            | ... | ...      | ... | 22      | 16  | 7        | 12  |

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|  |                                       |   |             |
|--|---------------------------------------|---|-------------|
| 1. Number of cases on Dispensary Register on January 1st, 1937 ...   | 1498                                  | 2. Number of cases transferred from other areas and cases returned after discharge under Head 3 in previous years ...             | 68          |
| 3. Number of cases transferred to other areas, cases not desiring further assistance under the scheme, and cases "lost sight of" ... | 92                                    | 4. Cases written off during the year as Dead (all causes) ...   | 153         |
| 5. Number of attendances at the Dispensary (including Contacts) ...  | 5003                                  | 6. Number of Insured Persons under Domestic Treatment on the 31st December  | 88          |
| 7. Number of consultations with medical practitioners :—<br>(a) Personal ...<br>(b) Other ...  | 145<br>768                            | 8. Number of visits by Tuberculosis Officers to homes (including personal consultations) ...                                      | 1389        |
| 9. Number of visits by Health Visitors to homes for Dispensary purposes ...  | 4796<br>+ 3635<br>Visits<br>by C.N.A. | 10. Number of :—<br>(a) Specimens of sputum examined ...<br>(b) X-ray examinations made ...<br>in connection with Dispensary work | 480<br>*555 |
| 11. Number of "Recovered" cases restored to Dispensary Register, and included in A(a) and A(b) above ...                             | 3                                     | 12. Number of "T.B. plus" cases on Dispensary Register on December 31st ...   | 473         |

† Remaining undiagnosed on 31/12/37.

\* Includes 268 Screenings.





## T.B. 2.—SANATORIA, HOSPITALS, AND OTHER RESIDENTIAL INSTITUTIONS FOR THE TREATMENT OF TUBERCULOSIS.

| Name and Situation of Institution.<br>(1)                 | Class of Case and No. of Beds.<br>(2) | Number of patients sent by the Council who were under treatment on the 31st, Dec., 1936.<br>(3) | Number of patients sent by the Council during the year ended December 31st, 1937.<br>(4) | Number of patients sent by the Council who were discharged or died in the Institution during the year ended 31st December, 1937<br>(5) | Total number of days during which the patients referred to in column 5 were resident in the Institution.<br>(6) | Average number of days which the patients referred to in column 5 were resident in the Institution.<br>(7) | Number of patients sent by the Council who were under treatment on the 31st December 1937.<br>(8) |
|---|---------------------------------------|---|--|--|---|--|---|
| County Sanatorium,<br>Markfield.                          | Male Adults P<br>(56 beds)            | 52  | 119  | 119  | *18018  | 151  | 52  |
|   | Female Adults P<br>(52 beds)          | 49  | 107  | 108  | †19322  | 179  | 48  |
|   | Children P<br>(22 beds)               | 20  | 36   | 37   | ‡6457   | 175  | 19  |
| Melton Isolation Hospital (T.B. Block)<br>Melton Mowbray. | Female Adults AP<br>(8 beds)          | 4   | 8  | 12   | 1961  | 163  | —   |
| Children's Hospital,<br>Gringley on the Hill.             | Children S                            | 3   | 2  | 3  | 574   | 191  | 2   |
| Harlow Wood Orthopædic Hospital,<br>Mansfield, Notts.     | Male Adults S                         | 1   | 3  | 3  | 581   | 194  | 1   |
|   | Children S                            | 4   | 3  | 3  | 831   | 277  | 4   |
|   | Female Adults S                       | 1   | 1  | 1  | 593   | 593  | 1   |
| Hospital of St. Cross,<br>Rugby.                          | Male Adults S                         | —   | 1  | —  | —   | —  | 1   |
| Leicester City General Hospital,<br>Leicester.            | Male Adults S                         | 3   | 11   | 10   | 1686  | 169  | 4   |
|   | Female Adults S                       | 6   | 5  | 8  | 2333  | 292  | 3   |
|   | Children S                            | 9   | 3  | 7  | 3160  | 451  | 5   |
| Warwickshire Orthopædic Hospital,<br>Coleshill.           | Children S                            | 7   | 4  | 4  | 1897  | 474  | 7   |
|   | TOTALS ....                           | 159   | 303  | 315  | 57413   | 182  | 147   |

\*20 patients stayed less than 6 weeks—average stay of remainder was 178 days.

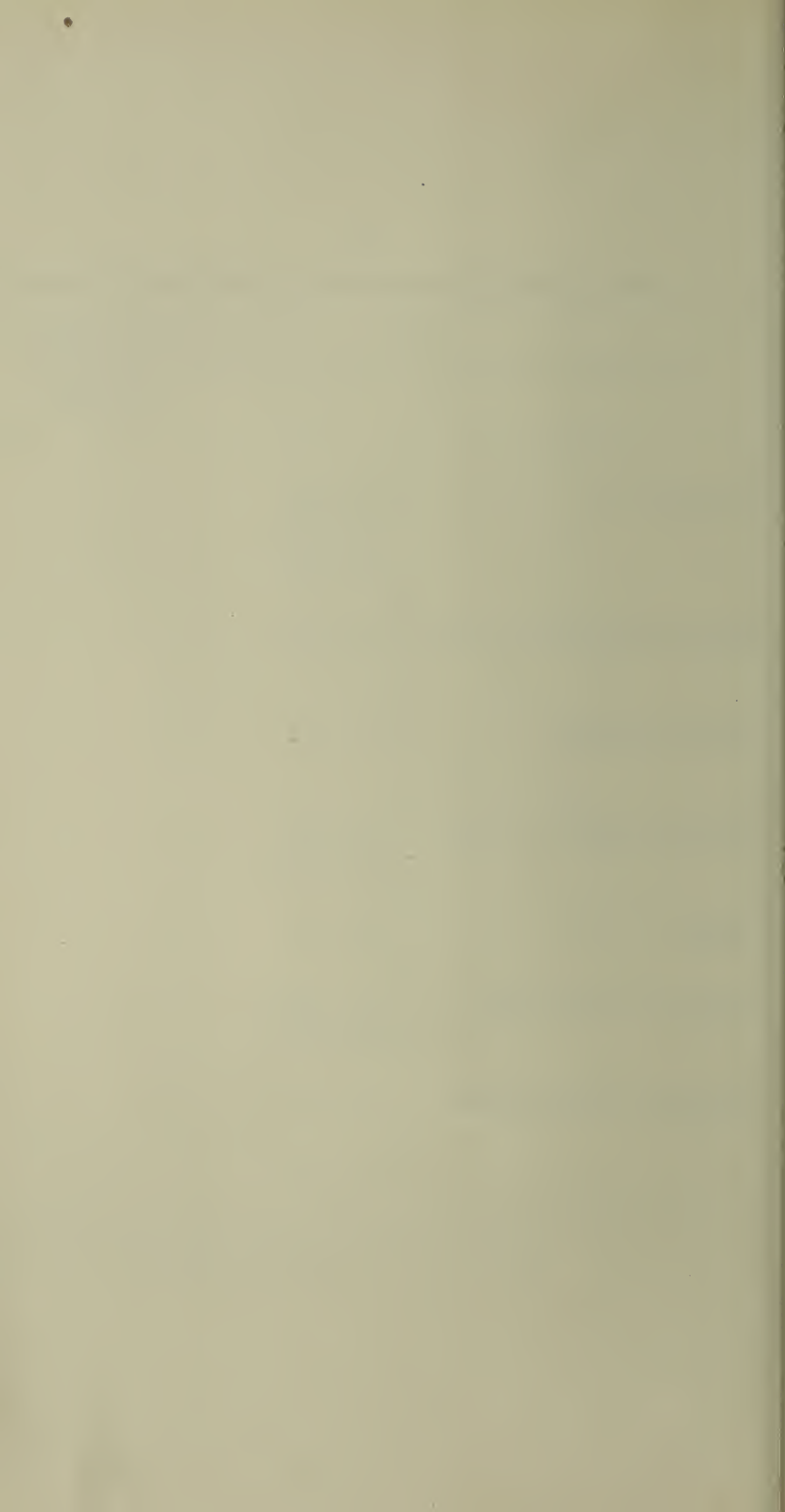
†15 " " " " " " " " " " 205 "

‡ 6 " " " " " " " " " " 204 "

P—Pulmonary Tuberculosis.

S—Surgical Tuberculosis.

AP—Advanced Pulmonary Tuberculosis.



**T.B. 3.—Return shewing the immediate results of treatment of patients discharged from Residential Institutions during the year 1937.**

| Classification on admission to Institution. |  |  |  | Condition at time of discharge. | Duration of Residential Treatment in the Institution. |    |     |            |    |     |             |    |     |                     |    |     | TOTAL |    |
|---|--|--|--|---------------------------------|---|----|-----|------------|----|-----|-------------|----|-----|---------------------|----|-----|-------|----|
|   |  |  |  |                                 | Under 3 months but exceeding 28 days                  |    |     | 3—6 months |    |     | 6—12 months |    |     | More than 12 months |    |     |       |    |
|   |  |  |  |                                 | M.  | F. | Ch. | M.         | F. | Ch. | M.          | F. | Ch. | M.                  | F. | Ch. |       |    |
| PULMONARY TUBERCULOSIS.                     |  |  |  | Class T.B. minus.               | Quiescent .... ....                                   | 5  | 4   | —          | 14 | 16  | 15          | 7  | 3   | 2                   | —  | 2   | —     | 68 |
|   |  |  |  |                                 | Not quiescent .... ....                               | —  | 3   | —          | 1  | 4   | —           | —  | 1   | 1                   | 1  | —   | —     | 11 |
|   |  |  |  |                                 | Died in Institution ....                              | —  | 1   | —          | —  | —   | 1           | —  | —   | —                   | —  | 1   | —     | 3  |
|   |  |  |  | Class T.B. plus Group 1.        | Quiescent .... ....                                   | —  | —   | —          | 1  | 2   | —           | —  | 1   | —                   | —  | —   | —     | 4  |
|   |  |  |  |                                 | Not quiescent .... ....                               | —  | —   | —          | —  | —   | —           | —  | —   | —                   | —  | —   | —     | —  |
|   |  |  |  |                                 | Died in Institution ....                              | —  | —   | —          | —  | —   | —           | —  | —   | —                   | —  | —   | —     | —  |
|   |  |  |  | Class T.B. plus Group 2.        | Quiescent .... ....                                   | —  | —   | —          | 1  | 1   | —           | 8  | 8   | 2                   | —  | 4   | 1     | 25 |
|   |  |  |  |                                 | Not quiescent .... ....                               | 2  | —   | —          | 7  | 3   | —           | 7  | 13  | —                   | 1  | 3   | —     | 36 |
|   |  |  |  |                                 | Died in Institution ....                              | —  | —   | —          | —  | 1   | —           | —  | —   | —                   | —  | —   | —     | 1  |
|   |  |  |  | Class T.B. plus Group 3.        | Quiescent .... ....                                   | —  | —   | —          | —  | —   | —           | —  | —   | —                   | —  | —   | —     | —  |
|   |  |  |  |                                 | Not quiescent .... ....                               | 4  | 2   | —          | 6  | 5   | —           | 7  | 6   | 1                   | 2  | 1   | 1     | 35 |
|   |  |  |  |                                 | Died in Institution ....                              | 10 | 4   | —          | 6  | 6   | —           | 3  | —   | —                   | 1  | 1   | —     | 31 |

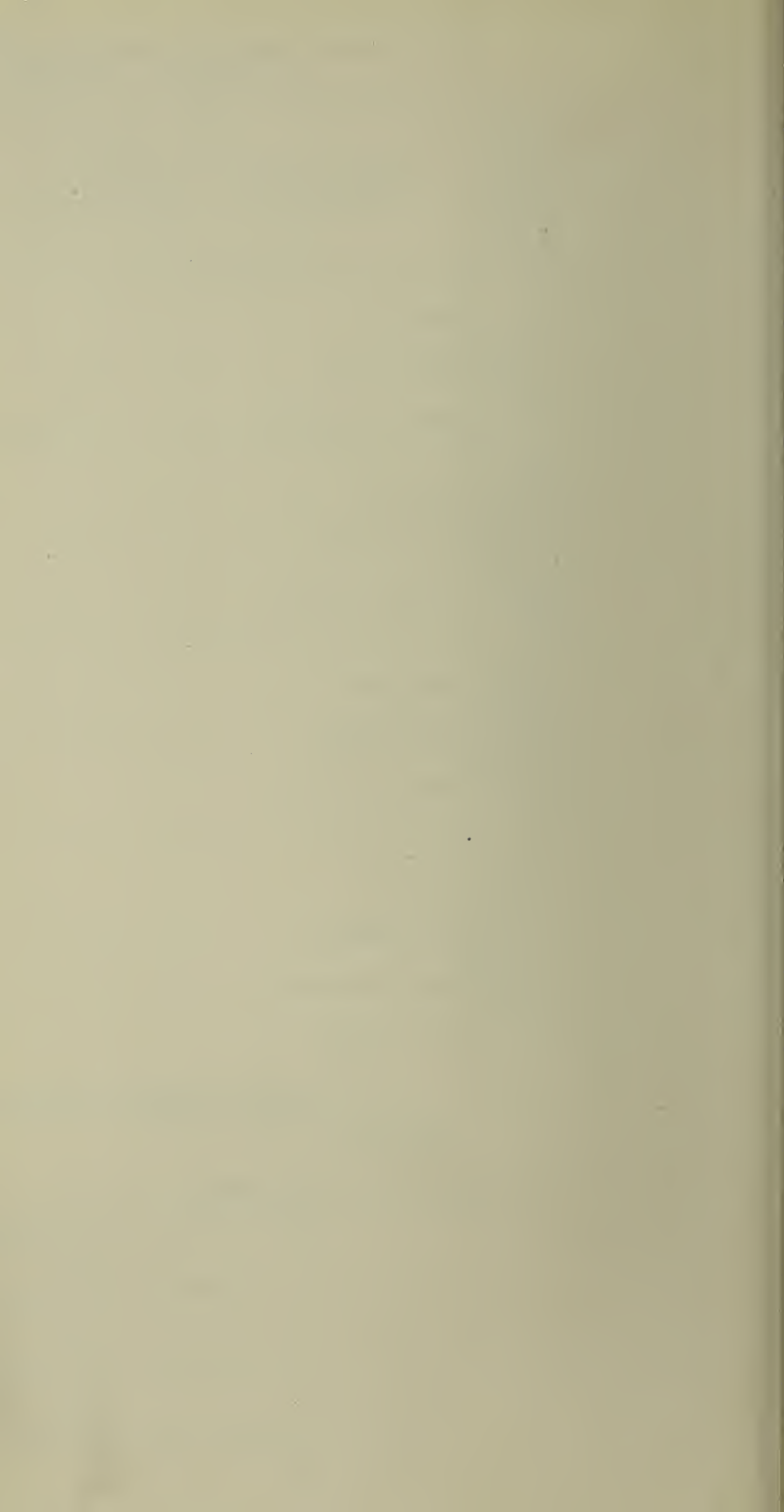
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In addition 31 cases who had been admitted for observation purposes, were discharged during the year, 8 as “definitely tuberculous” and 23 as “Non-Tuberculous.”

**Non-Pulmonary Tuberculosis.**

|                      |  |               |      |      |      |      |    |
|----------------------|--|---------------|------|------|------|------|----|
| Bones and Joints :—  |  | Quiescent     | .... | .... | .... | .... | 17 |
|                      |  | Not Quiescent | .... | .... | .... | .... | 13 |
|                      |  | Died          | .... | .... | .... | .... | 1  |
| Abdominal :—         |  | Quiescent     | .... | .... | .... | .... | 4  |
|                      |  | Not Quiescent | .... | .... | .... | .... | 1  |
|                      |  | Died          | .... | .... | .... | .... | —  |
| Other Organs :—      |  | Quiescent     | .... | .... | .... | .... | 6  |
|                      |  | Not Quiescent | .... | .... | .... | .... | 2  |
|                      |  | Died          | .... | .... | .... | .... | 1  |
| Peripheral Glands :— |  | Quiescent     | .... | .... | .... | .... | 6  |
|                      |  |               |      |      |      |      | —  |
|                      |  |               |      |      |      |      | 51 |
|                      |  |               |      |      |      |      | —  |

*Note.*—A further 21 cases who had been in Institutions less than 28 days were also discharged during the year.





T.B. 4. TUBERCULOSIS (Pulmonary and Other).

| Year                             | Number of Notifications. |           |           |              | Number of Deaths. |           |              | Death Rate.  |              |              |
|----------------------------------|--------------------------|-----------|-----------|--------------|-------------------|-----------|--------------|--------------|--------------|--------------|
|                                  |                          | Urban     | Rural     | Whole County | Urban             | Rural     | Whole County | Urban        | Rural        | Whole County |
| 1932                             | Lungs<br>Other           | 133<br>41 | 185<br>42 | 318<br>83    | 93<br>26          | 132<br>28 | 225<br>54    | 0.76<br>0.21 | 0.71<br>0.16 | 0.73<br>0.17 |
| 1933                             | Lungs<br>Other           | 128<br>31 | 147<br>51 | 275<br>82    | 86<br>15          | 128<br>26 | 214<br>41    | 0.70<br>0.12 | 0.69<br>0.14 | 0.69<br>0.13 |
| 1934                             | Lungs<br>Other           | 126<br>33 | 148<br>55 | 274<br>88    | 77<br>17          | 106<br>24 | 183<br>41    | 0.62<br>0.14 | 0.56<br>0.13 | 0.59<br>0.13 |
| 1935                             | Lungs<br>Other           | 106<br>36 | 107<br>39 | 213<br>75    | 82<br>18          | 79<br>16  | 161<br>34    | 0.68<br>0.15 | 0.44<br>0.09 | 0.54<br>0.12 |
| 1936                             | Lungs<br>Other           | 111<br>27 | 111<br>37 | 222<br>64    | 73<br>16          | 84<br>18  | 157<br>34    | 0.54<br>0.12 | 0.51<br>0.11 | 0.53<br>0.11 |
| Average<br>for above<br>5 years. | Lungs<br>Other           | 121<br>34 | 139<br>45 | 260<br>79    | 82<br>18          | 106<br>22 | 188<br>40    | 0.66<br>0.15 | 0.58<br>0.13 | 0.62<br>0.13 |
| 1937                             | Lungs<br>Other           | 126<br>45 | 95<br>36  | 221<br>81    | 82<br>18          | 80<br>22  | 162<br>40    | 0.58<br>0.13 | 0.50<br>0.14 | 0.54<br>0.13 |

**T.B. 5. TUBERCULOSIS :—Notifications and Deaths.**  
**Shewing Age Periods.**

| AGE PERIODS.       | NEW CASES.        |                   |                  |                  | DEATHS.*  |         |               |         |
|--------------------|-------------------|-------------------|------------------|------------------|-----------|---------|---------------|---------|
|                    | Pulmonary         |                   | Non-Pulmonary    |                  | Pulmonary |         | Non-Pulmonary |         |
|                    | Males             | Females           | Males            | Females          | Males     | Females | Males         | Females |
| 0 to 1 ....        | —                 | —                 | 2 <sup>2</sup>   | 1 <sup>3</sup>   | —         | —       | 3             | 4       |
| 1 to 5 ....        | —                 | —                 | 3 <sup>2</sup>   | 7 <sup>1</sup>   | —         | —       | 1             | 3       |
| 5 to 15 ....       | 9 <sup>3</sup>    | 9 <sup>1</sup>    | 13 <sup>2</sup>  | 13 <sup>4</sup>  | —         | 2       | 3             | 2       |
| 15 to 25 ....      | 33 <sup>2</sup>   | 41 <sup>3</sup>   | 3 <sup>4</sup>   | 10 <sup>4</sup>  | 18        | 21      | 4             | 5       |
| 25 to 45 ....      | 37 <sup>7</sup>   | 46 <sup>11</sup>  | 12 <sup>1</sup>  | 12 <sup>3</sup>  | 43        | 32      | 3             | 8       |
| 45 to 65 ....      | 24 <sup>5</sup>   | 15 <sup>4</sup>   | 5 <sup>3</sup>   | — <sup>1</sup>   | 27        | 11      | 1             | 2       |
| 65 and upwards.... | 7 <sup>2</sup>    | —                 | —                | —                | 8         | —       | 1             | —       |
| Total ....         | 110 <sup>19</sup> | 111 <sup>19</sup> | 38 <sup>14</sup> | 43 <sup>16</sup> | 96        | 66      | 16            | 24      |

NOTE.—The figures in small type show additional cases which came to the notice of the County M.O.H. other than by formal notification.

\* 28 of the deaths were of non-notified cases.

| District. | Estimated<br>Population<br>Mid-Year. | NOTIFICATIONS OF TUBERCULOSIS. |                 |                    |                 | DEATHS FROM TUBERCULOSIS. |                |                    |                |
|-----------|--------------------------------------|--------------------------------|-----------------|--------------------|-----------------|---------------------------|----------------|--------------------|----------------|
|           |                                      | Pulmonary.                     | Attack<br>Rate. | Non-<br>Pulmonary. | Attack<br>Rate. | Pulmonary.                | Death<br>Rate. | Non-<br>Pulmonary. | Death<br>Rate. |
| URBAN.    | Ashby-de-la-Zouch                    | 3                              | .51             | —                  | —               | 3                         | .51            | —                  | —              |
|           | Ashby Woulds                         | 1                              | .31             | 4                  | 1.22            | 1                         | .31            | 1                  | .31            |
|           | Coalville                            | 20                             | .83             | 11                 | .46             | 10                        | .41            | 1                  | .04            |
|           | Hinckley                             | 35                             | 1.01            | 12                 | .36             | 26                        | .77            | 6                  | .18            |
|           | Loughborough                         | 21                             | .70             | 10                 | .33             | 19                        | .63            | 3                  | .10            |
|           | Market Harborough                    | 10                             | 1.06            | 3                  | .32             | 9                         | .96            | 3                  | .32            |
|           | Melton Mowbray                       | 9                              | .80             | 2                  | .18             | 7                         | .62            | —                  | —              |
|           | Oadby                                | 1                              | .19             | —                  | —               | 1                         | .19            | —                  | —              |
|           | Shepshed                             | 9                              | 1.58            | 1                  | .18             | 3                         | .53            | 1                  | .18            |
|           | Wigston Magna                        | 17                             | 1.35            | 2                  | .16             | 3                         | .24            | 3                  | .24            |
|           | TOTALS                               | 126                            | .89             | 45                 | .32             | 82                        | .58            | 18                 | .13            |
| RURAL.    | Ashby-de-la-Zouch                    | 4                              | .29             | 2                  | .14             | 10                        | .72            | —                  | —              |
|           | Barrow-on-Soar                       | 21                             | .55             | 9                  | .23             | 21                        | .55            | 6                  | .16            |
|           | Billesdon                            | 1                              | .16             | 1                  | .16             | 3                         | .48            | 1                  | .16            |
|           | Blaby                                | 26                             | .81             | 5                  | .16             | 11                        | .34            | 4                  | .12            |
|           | Castle Donington                     | 6                              | .74             | 5                  | .62             | 7                         | .86            | 1                  | .12            |
|           | Lutterworth                          | 9                              | .86             | 8                  | .76             | 3                         | .29            | 2                  | .19            |
|           | Market Bosworth                      | 14                             | .57             | 2                  | .08             | 13                        | .53            | 4                  | .16            |
|           | Market Harborough                    | 6                              | .69             | 3                  | .35             | 7                         | .81            | 1                  | .12            |
|           | Melton and Belvoir                   | 8                              | .47             | 1                  | .06             | 5                         | .29            | 3                  | .18            |
|           | TOTALS                               | 95                             | .60             | 36                 | .23             | 80                        | .50            | 22                 | .14            |
| TOTALS    |                                      | 141300                         |                 |                    |                 |                           |                |                    |                |
| TOTALS    |                                      | 159400                         |                 |                    |                 |                           |                |                    |                |

TABLE 1.—VITAL STATISTICS.

|  | LEICESTERSHIRE COUNTY, 1937 |       |         |       |                 |       | ENGLAND<br>AND<br>WALES.        |      |      |
|--|-----------------------------|-------|---------|-------|-----------------|-------|---------------------------------|------|------|
|  | Urban                       |       | Rural   |       | Whole<br>County |       |                                 |      |      |
|  | 141,300                     |       | 159,400 |       | 300,700         |       |                                 |      |      |
|  | No.                         | Rates | No.     | Rates | No.             | Rates | Rates                           |      |      |
| Population<br>(Est. Mid-year, 1937) ....   | 2118                        | 15.0  | 2370    | 14.9  | 4488            | 14.9  | 14.9                            |      |      |
| Live Births .....                          | 1652                        | 11.69 | 1925    | 12.08 | 3577            | 11.89 | 12.4                            |      |      |
| Deaths (all causes and all<br>ages) .....  | 103                         | *49   | 117     | *49   | 220             | *49   | *58                             |      |      |
| „ (under one year)....                     | 22                          | 0.16  | 26      | 0.16  | 48              | 0.16  | ....                            |      |      |
| „ (Zymotic) .....                          |                             |       |         |       |                 |       |                                 |      |      |
| Deaths from :—                             |                             |       |         |       |                 |       |                                 |      |      |
| Measles ....                               | 5                           | 0.04  | 3       | 0.01  | 8               | 0.03  | 0.02                            |      |      |
| Whooping Cough .....                       | 3                           | 0.02  | 4       | 0.03  | 7               | 0.02  | 0.04                            |      |      |
| Diphtheria .....                           | 6                           | 0.04  | 8       | 0.05  | 14              | 0.05  | 0.07                            |      |      |
| Scarlet Fever .....                        | 1                           | 0.01  | 6       | 0.04  | 7               | 0.02  | 0.01                            |      |      |
| **Diarrhoea (under 2 yrs.)                 | 6                           | *2.83 | 5       | *2.11 | 11              | *2.45 | *5.8                            |      |      |
|  |                             |       |         |       |                 |       | Percentages of<br>Total Deaths. |      |      |
|  | Urban                       |       | Rural   |       | Wh'le<br>C'n'ty |       |                                 |      |      |
| The seven chief causes<br>of death were :— |                             |       |         |       |                 |       |                                 |      |      |
| Heart Disease ....                         | 356                         | 2.52  | 422     | 2.65  | 778             | 2.59  | 21.5                            | 21.9 | 21.7 |
| Cancer ....                                | 245                         | 1.73  | 271     | 1.70  | 516             | 1.72  | 14.8                            | 14.1 | 14.4 |
| Cerebral Hæmorrhage .....                  | 111                         | 0.79  | 123     | 0.67  | 234             | 0.78  | 6.7                             | 6.4  | 6.5  |
| Influenza .....                            | 74                          | 0.52  | 99      | 0.62  | 173             | 0.58  | 4.5                             | 5.1  | 4.8  |
| Senility ....                              | 96                          | 0.68  | 75      | 0.47  | 171             | 0.57  | 5.8                             | 3.9  | 4.8  |
| Phthisis ....                              | 82                          | 0.58  | 80      | 0.50  | 162             | 0.54  | 5.0                             | 4.2  | 4.5  |
| Pneumonia .....                            | 78                          | 0.55  | 70      | 0.44  | 148             | 0.49  | 4.7                             | 3.6  | 4.1  |

NOTES.— \* The rates are calculated per thousand of the population except where marked (\*) which are per thousand registered births.

\*\* The Diarrhoea rates per thousand of the population are :—Urban 0.04 ; Rural 0.03 ; Whole County 0.04.

**TABLE 2.—BIRTH-RATES, DEATH-RATES, ANALYSIS OF MORTALITY, MATERNAL DEATH RATES, AND CASE-RATES FOR CERTAIN INFECTIOUS DISEASES IN THE YEAR 1937.**

England and Wales, London, 125 Great Towns and 148 Smaller Towns. (Provisional Figures based on Weekly and Quarterly Returns.)

|  | RATE PER 1,000 POPULATION. |               | ANNUAL DEATH-RATE PER 1,000 POPULATION. |                                 |            |          |                |                 |             |            |           |            | NOTIFICATIONS. |             |                |             |            | RATE PER 1,000 LIVE BIRTHS.                |                              |
|--|----------------------------|---------------|---|---------------------------------|------------|----------|----------------|-----------------|-------------|------------|-----------|------------|----------------|-------------|----------------|-------------|------------|--|------------------------------|
|  | Live Births.               | Still-Births. | All Causes.                             | Typhoid and Paratyphoid Fevers. | Small-pox. | Measles. | Scarlet Fever. | Whooping Cough. | Diphtheria. | Influenza. | Violence. | Small-pox. | Scarlet Fever. | Diphtheria. | Enteric Fever. | Erysipelas. | Pneumonia. | Diarrhoea and Enteritis (under two years). | Total Deaths under One Year. |
| England and Wales ... ..   | 14.9                       | 0.60          | 12.4                                    | 0.00                            | —          | 0.02     | 0.01           | 0.04            | 0.07        | 0.45       | 0.54      | 0.00       | 2.33           | 1.49        | 0.05           | 0.37        | 1.36       | 5.8  | 58                           |
| 125 County Boroughs and Great Towns, including London ...                        | 14.9                       | 0.67          | 12.5                                    | 0.01                            | —          | 0.03     | 0.01           | 0.04            | 0.08        | 0.39       | 0.45      | —          | 2.56           | 1.81        | 0.06           | 0.43        | 1.58       | 7.9  | 62                           |
| 148 Smaller Towns<br>(Resident Populations 25,000 to 50,000 at Census, 1931) ... | 15.3                       | 0.64          | 11.9                                    | 0.00                            | —          | 0.02     | 0.01           | 0.03            | 0.05        | 0.42       | 0.42      | 0.00       | 2.42           | 1.38        | 0.04           | 0.34        | 1.20       | 3.2  | 55                           |
| London Administrative County   | 13.3                       | 0.54          | 12.3                                    | 0.00                            | —          | 0.01     | 0.01           | 0.06            | 0.05        | 0.38       | 0.51      | —          | 2.09           | 1.93        | 0.05           | 0.44        | 1.18       | 12.0                                       | 60                           |

The maternal mortality rates for England and Wales are as follows: per 1,000 Live Births

|                  |      |        |      |       |      |
|------------------|------|--------|------|-------|------|
| Puerperal Sepsis | 0.97 | Others | 2.26 | Total | 3.23 |
| "                | "    | "      | 2.17 | "     | 3.11 |
| "                | "    | "      | "    | "     | "    |

NOTIFICATIONS.— (per thousand total births)

|   |       |
|---|-------|
| England and Wales ...   | 13.93 |
| 125 County Boroughs and Great Towns, including London                               | 17.59 |
| 148 Smaller Towns (Estimated Resident Populations 25,000 to 50,000 at Census, 1931) | 11.52 |
| London Administrative County  | 18.49 |

Puerperal Fever & Puerperal Pyrexia.



TABLE 3.—NOTIFIABLE DISEASES.

| DISEASE.  | Total cases notified. | Cases admitted to Isolation Hospital. | Total Deaths. |
|---|-----------------------|---------------------------------------|---------------|
| <i>Notifications returned by the Registrar General :—</i> |                       |                                       |               |
| Small-pox ....  | —                     | —                                     | —             |
| Diphtheria ....   | 371                   | 376                                   | 14            |
| Scarlet Fever ....  | 763                   | 663                                   | 7             |
| Enteric Fever ....  | 5                     | 4                                     | —             |
| Pneumonia ....  | 463                   | —                                     | 148           |
| Puerperal Fever and Puerperal Pyrexia } ....              | 35                    | 17                                    | 14            |
| Erysipelas ....   | 101                   | 24                                    | —             |
| <i>Other Diseases generally notifiable :—</i>             |                       |                                       |               |
| Ophthalmia Neonatorum ....                                | 21                    | 2                                     | —             |
| Tuberculosis—Lungs ....                                   | 221                   | —                                     | 162           |
| „ other forms ....  | 81                    | —                                     | 40            |
| Encephalitis Lethargica ....                              | 3                     | 2                                     | 2             |
| Cerebro-spinal Fever ....                                 | 11                    | 12                                    | 9             |
| <i>Diseases notified locally :—</i>                       |                       |                                       |               |
| Whooping Cough ....                                       | —                     | 2                                     | 7             |
| Measles ....  | —                     | 4                                     | 8             |
| TOTALS ....   | 2,075                 | 1,106                                 | 411           |

Figures supplied by the Registrar General are for the 52 weeks ended 1st January, 1938.

| CAUSES OF DEATH.  |  | AGGREGATE OF URBAN DISTRICTS. |          |         |          |          |          |          |          |          |            |            |            | AGGREGATE OF RURAL DISTRICTS. |          |        |          |          |          |          |          |          |            |            |            |
|---|--|-------------------------------|----------|---------|----------|----------|----------|----------|----------|----------|------------|------------|------------|-------------------------------|----------|--------|----------|----------|----------|----------|----------|----------|------------|------------|------------|
|   |  | All Ages.                     | 0—       | 1—      | 2—       | 5—       | 15—      | 25—      | 35—      | 45—      | 55—        | 65—        | 75—        | All Ages.                     | 0—       | 1—     | 2—       | 5—       | 15—      | 25—      | 35—      | 45—      | 55—        | 65—        | 75—        |
| ALL CAUSES  |  | M 837<br>F 815                | 49<br>54 | 10<br>9 | 13<br>13 | 20<br>12 | 27<br>25 | 32<br>28 | 45<br>47 | 83<br>81 | 143<br>123 | 204<br>180 | 211<br>243 | 953<br>972                    | 68<br>49 | 5<br>6 | 10<br>11 | 17<br>15 | 31<br>27 | 45<br>37 | 58<br>62 | 71<br>79 | 146<br>150 | 218<br>219 | 284<br>317 |
| 1. Typhoid and paratyphoid fevers                             |  | M 1<br>F                      |          |         |          |          |          |          |          | 1        |            |            |            |                               |          |        |          |          |          |          |          |          |            |            |            |
| 2. Measles  |  | M 3<br>F 2                    |          | 1<br>1  | 1<br>1   |          |          |          |          |          |            |            |            | 1<br>2                        | 1        |        | 1        | 1        |          |          |          |          |            |            |            |
| 3. Scarlet Fever  |  | M 1<br>F                      |          |         |          |          | 1        |          |          |          |            |            |            | 5<br>1                        | 1        |        | 1        | 2        | 1        |          |          |          |            |            |            |
| 4. Whooping Cough   |  | M 3<br>F                      | 2        |         |          |          |          |          |          |          |            |            |            | 2<br>2                        | 1        |        | 1        |          |          |          |          |          |            |            |            |
| 5. Diphtheria...  |  | M 4<br>F 2                    |          | 1<br>2  |          |          | 1        |          |          |          |            |            |            | 2<br>6                        | 1<br>1   |        | 1<br>1   | 2        |          |          |          |          |            |            |            |
| 6. Influenza  |  | M 38<br>F 36                  | 1        |         |          | 1        | 2<br>2   | 3<br>1   | 3<br>4   | 2<br>3   | 13<br>8    | 8<br>10    | 5<br>7     | 56<br>43                      | 2<br>1   |        | 2<br>1   |          | 1<br>1   | 4<br>3   | 7<br>5   | 9<br>10  | 12<br>8    | 14<br>14   |            |
| 7. Encephalitis lethargica                                    |  | M<br>F                        |          |         |          |          |          |          |          |          |            |            |            | 1<br>1                        |          |        |          |          |          |          |          | 1        |            |            |            |
| 8. Cerebro-spinal Fever                                       |  | M 2<br>F 4                    | 1        |         | 1<br>1   |          |          |          |          |          | 1<br>1     |            |            | 2<br>1                        | 1        |        |          |          |          |          |          |          |            |            |            |
| 9. Tuberculosis of respiratory system                         |  | M 50<br>F 32                  |          |         |          | 1<br>10  | 8<br>9   | 7<br>5   | 14<br>6  | 11<br>6  | 5<br>1     | 4<br>1     | 1<br>34    | 46<br>34                      |          |        |          | 1        | 10<br>11 | 11<br>7  | 6<br>1   | 5<br>3   | 3<br>3     |            |            |
| 10. Other Tuberculous diseases                                |  | M 8<br>F 10                   | 3<br>1   |         | 1<br>2   |          | 2<br>3   |          |          | 1<br>1   |            |            |            | 8<br>14                       | 3<br>1   |        | 2<br>2   |          | 2<br>2   | 1<br>3   |          |          | 1          |            |            |
| 11. Syphilis  |  | M 1<br>F 1                    |          |         |          |          |          |          |          |          | 1<br>1     |            |            | 1<br>1                        |          |        |          |          |          |          |          |          |            |            | 1          |
| 12. General paralysis of the insane, tabes dorsalis           |  | M 3<br>F                      |          |         |          |          |          |          | 1        | 2        |            |            |            | 1                             |          |        |          |          |          |          |          |          |            |            |            |
| 13. Cancer, malignant disease                                 |  | M 109<br>F 136                |          |         |          |          | 2<br>1   | 5<br>9   | 11<br>19 | 38<br>37 | 32<br>41   | 21<br>29   | 115<br>156 |                               |          |        |          |          |          | 4<br>3   | 10<br>26 | 30<br>40 | 43<br>41   | 24<br>31   |            |
| 14. Diabetes  |  | M 9<br>F 13                   |          |         |          |          | 1<br>1   | 1<br>1   | 2<br>4   | 4<br>5   | 2<br>5     | 1<br>4     | 12<br>19   |                               |          |        | 1        |          |          | 1<br>1   | 2<br>1   | 3<br>11  | 6<br>4     |            |            |
| 15. Cerebral Hæmorrhage, etc.                                 |  | M 41<br>F 70                  |          |         |          |          |          |          | 4<br>6   | 10<br>22 | 16<br>31   | 15<br>31   | 50<br>73   |                               |          |        |          |          | 1<br>1   | 1<br>5   | 2<br>15  | 9<br>25  | 14<br>25   | 23<br>26   |            |
| 16. Heart Disease   |  | M 183<br>F 173                |          |         |          | 1<br>2   | 3<br>3   | 5<br>7   | 12<br>16 | 30<br>21 | 70<br>58   | 60<br>64   | 212<br>210 |                               |          |        | 1<br>2   | 2<br>3   | 6<br>2   | 7<br>6   | 13<br>13 | 26<br>35 | 68<br>64   | 87<br>87   |            |
| 17. Aneurysm  |  | M 3<br>F 1                    |          |         |          |          | 1        |          | 2        |          | 1          |            | 2<br>2     |                               |          |        |          |          |          |          |          | 2        |            |            |            |
| 18. Other Circulatory diseases                                |  | M 30<br>F 32                  |          |         |          |          |          |          | 1<br>3   | 10<br>4  | 10<br>15   | 9<br>15    | 50<br>66   |                               |          |        |          |          | 1        |          | 1<br>1   | 8<br>9   | 14<br>17   | 27<br>38   |            |
| 19. Bronchitis  |  | M 34<br>F 31                  | 4<br>2   |         | 1<br>1   |          | 1        |          | 1<br>1   | 4<br>4   | 10<br>4    | 13<br>18   | 29<br>30   |                               | 1<br>2   |        |          |          |          |          | 1<br>4   | 4<br>1   | 7<br>5     | 15<br>20   |            |
| 20. Pneumonia (all forms)                                     |  | M 45<br>F 33                  | 11<br>7  | 4<br>4  | 1<br>1   | 2<br>1   | 3<br>1   | 4<br>5   | 6<br>3   | 6<br>4   | 3<br>5     | 3<br>5     | 39<br>31   |                               | 14<br>4  | 1<br>1 | 1<br>1   | 1<br>2   | 2<br>3   | 4<br>4   | 2<br>4   | 5<br>4   | 6<br>7     | 4<br>5     |            |
| 21. Other Respiratory diseases                                |  | M 14<br>F 8                   |          |         |          | 1        |          |          | 4<br>2   | 3<br>3   | 3<br>1     | 3<br>1     | 11<br>6    |                               |          |        |          |          | 1        | 2        | 1<br>1   | 4<br>1   | 2<br>1     | 1<br>1     |            |
| 22. Peptic Ulcer  |  | M 12<br>F 4                   |          |         |          |          |          |          | 3<br>2   | 5<br>1   | 3<br>1     | 1<br>1     | 12<br>2    |                               |          |        |          |          | 1        |          |          | 6<br>2   | 1<br>1     | 2<br>1     |            |
| 23. Diarrhœa, etc.  |  | M 6<br>F 7                    | 2<br>3   | 1       |          |          |          |          | 1        |          |            | 1<br>2     | 8<br>7     |                               | 5        |        |          | 1        |          | 1        |          | 1        |            | 4          |            |
| 24. Appendicitis  |  | M 6<br>F 3                    |          |         |          | 2        |          |          | 1<br>1   | 1<br>1   | 1<br>1     | 2          | 6<br>5     |                               |          |        |          |          | 1        | 2        | 1<br>1   | 1<br>1   | 2          | 1          |            |
| 25. Cirrhosis of liver  |  | M 3<br>F                      |          |         |          |          |          |          |          |          |            | 2          | 1<br>1     |                               |          |        |          |          |          |          |          |          |            | 1<br>1     |            |
| 26. Other diseases of liver, etc.                             |  | M 4<br>F 4                    |          |         |          |          |          |          | 2        |          | 1<br>1     | 1<br>1     | 2<br>4     |                               |          |        |          |          |          |          | 1        | 1        | 1<br>1     | 2          |            |
| 27. Other digestive diseases                                  |  | M 11<br>F 8                   |          |         |          | 1<br>1   |          |          |          |          |            | 3<br>3     | 13<br>15   |                               | 2        |        | 1        |          |          |          |          | 2<br>3   | 3<br>3     | 4<br>2     |            |
| 28. Acute & Chronic Nephritis                                 |  | M 28<br>F 20                  |          |         |          | 1<br>1   |          |          | 1<br>4   | 3<br>5   | 6<br>3     | 7<br>1     | 31<br>42   |                               |          | 1      |          |          | 2<br>1   | 3<br>2   | 8<br>8   | 3<br>11  | 11<br>16   |            |            |
| 29. Puerperal sepsis  |  | F 3                           |          |         |          |          | 1        | 2        |          |          |            |            | 7          |                               |          |        |          | 1        | 3        | 3        |          |          |            |            |            |
| 30. Other Puerperal causes                                    |  | F 1                           |          |         |          |          | 1        |          |          |          |            |            | 3          |                               |          |        |          |          | 3        |          |          |          |            |            |            |
| 31. Congenital debility, pre-mature birth, malformations, &c. |  | M 27<br>F 35                  | 26<br>33 |         | 2        |          | 1        |          |          |          |            |            | 37<br>34   |                               | 34<br>32 |        |          | 2        |          | 1        |          |          |            |            |            |
| 32. Senility  |  | M 47<br>F 49                  |          |         |          |          |          |          |          |          |            | 2<br>46    | 35<br>40   |                               |          |        |          |          |          |          |          |          |            | 33<br>37   |            |
| 33. Suicide   |  | M 9<br>F 6                    |          |         |          |          |          |          |          | 1<br>4   | 3<br>1     | 1<br>1     | 13<br>6    |                               |          |        |          |          | 1        | 2        | 4<br>1   | 5<br>2   | 1          |            |            |
| 34. Other violence  |  | M 40<br>F 23                  | 1<br>1   | 1<br>1  | 3<br>3   | 4<br>1   | 3<br>1   | 4<br>1   | 3<br>1   | 4<br>1   | 6<br>2     | 7<br>9     | 59<br>22   |                               | 4<br>1   | 1<br>1 | 1<br>3   | 4<br>2   | 6<br>3   | 3<br>10  | 6<br>13  | 7<br>7   | 4<br>3     | 11         |            |
| 35. Other defined diseases                                    |  | M 64<br>F 63                  | 1<br>3   | 2<br>1  | 7<br>3   | 1<br>5   | 3<br>5   | 2<br>5   | 6<br>13  | 7<br>12  | 18<br>9    | 15<br>7    | 89<br>85   |                               | 5<br>3   |        | 3<br>3   | 2<br>3   | 4<br>6   | 2<br>9   | 14<br>16 | 21<br>12 | 25<br>15   |            |            |
| 36. Causes ill-defined, or unknown                            |  | M 1<br>F 2                    |          |         |          |          |          |          |          |          | 1<br>2     |            | 2<br>2     |                               |          |        |          |          |          |          |          | 1<br>1   | 1<br>1     |            |            |

SPECIAL CAUSES INCLUDED IN NO. 35 ABOVE:

[illegible]





TABLE 5.

## CAUSES OF DEATH IN ADMINISTRATIVE AREAS.

| Causes of Death.                                   | Ashby-de-la Zouch U.D. |    | Ashby Wolds U.D. |    | Coalville U.D. |     | Hinckley U.D. |     | Lough-borough M.B. |     | Market Harborough U.D. |    | Melton Mowbray U.D. |    | Oadby U.D. |    | Shepshed U.D. |    | Wigston U.D. |    | Ashby-de-la Zouch R.D. |    | Barrow-upon-Soar R.D. |     | Billesdon R.D. |    | Blaby R.D. |     | Castle Donington R.D. |    | Lutterworth R.D. |    | Market Bosworth R.D. |     | Market Harborough R.D. |    | Melton & Belvoir R.D. |     | Totals. U.D.'s |     | Totals. R.D.'s |     | Totals. Whole County. |    |    |   |    |   |   |
|--|------------------------|----|------------------|----|----------------|-----|---------------|-----|--------------------|-----|------------------------|----|---------------------|----|------------|----|---------------|----|--------------|----|------------------------|----|-----------------------|-----|----------------|----|------------|-----|-----------------------|----|------------------|----|----------------------|-----|------------------------|----|-----------------------|-----|----------------|-----|----------------|-----|-----------------------|----|----|---|----|---|---|
| Civilians only.                                    | M.                     | F. | M.               | F. | M.             | F.  | M.            | F.  | M.                 | F.  | M.                     | F. | M.                  | F. | M.         | F. | M.            | F. | M.           | F. | M.                     | F. | M.                    | F.  | M.             | F. | M.         | F.  | M.                    | F. | M.               | F. | M.                   | F.  | M.                     | F. | M.                    | F.  | M.             | F.  |                |     |                       |    |    |   |    |   |   |
| ALL CAUSES.  | 52                     | 36 | 19               | 19 | 154            | 123 | 190           | 160 | 184                | 183 | 59                     | 70 | 57                  | 61 | 29         | 38 | 40            | 47 | 53           | 78 | 107                    | 67 | 220                   | 210 | 46             | 36 | 141        | 170 | 46                    | 74 | 67               | 82 | 138                  | 154 | 74                     | 54 | 114                   | 125 | 837            | 815 | 953            | 972 | 3577                  |    |    |   |    |   |   |
| 1 Typhoid and paratyphoid fevers                   | 1                      |    |                  |    |                |     |               |     |                    |     |                        |    |                     |    |            |    |               |    |              |    |                        |    |                       |     |                |    |            |     |                       |    |                  |    |                      |     |                        |    |                       |     |                |     |                |     | 1                     |    |    |   |    |   |   |
| 2 Measles  | 1                      |    |                  |    |                |     | 1             | 2   | 1                  |     |                        |    |                     |    |            |    |               |    |              |    |                        |    |                       |     |                |    | 1          | 1   |                       |    |                  |    |                      |     |                        |    |                       |     |                |     |                |     |                       | 3  | 2  | 1 | 2  | 8 |   |
| 3 Scarlet fever                                    |                        |    |                  |    |                |     |               |     |                    |     |                        |    |                     |    |            |    |               |    | 1            |    |                        |    | 2                     |     |                |    | 1          |     |                       |    |                  |    | 2                    | 1   |                        |    |                       |     |                |     |                |     |                       | 1  |    | 5 | 1  | 7 |   |
| 4 Whooping cough                                   |                        | 1  |                  |    |                |     | 1             | 1   |                    |     |                        |    |                     |    |            |    |               |    |              |    |                        |    |                       |     |                |    | 1          |     |                       |    |                  |    |                      |     |                        |    |                       |     |                |     |                |     |                       |    | 3  | 2 | 2  | 7 |   |
| 5 Diphtheria                                       |                        |    |                  |    | 3              |     | 1             | 1   |                    |     |                        |    |                     |    |            |    |               |    |              |    |                        |    |                       |     |                |    |            | 2   |                       |    |                  |    | 1                    |     | 1                      | 1  |                       |     |                |     |                |     | 4                     | 2  | 2  | 6 | 14 |   |   |
| 6 Influenza  | 1                      |    |                  | 2  | 10             | 7   | 2             | 2   | 11                 | 10  | 4                      | 6  | 4                   | 1  |            | 1  | 5             | 5  | 1            | 2  | 7                      | 4  | 15                    | 12  | 3              |    | 6          | 5   | 4                     | 8  | 5                | 2  | 7                    | 4   | 2                      | 3  | 7                     | 5   | 38             | 36  | 56             | 43  | 173                   |    |    |   |    |   |   |
| 7 Encephalitis lethargica                          |                        |    |                  |    |                |     |               |     |                    |     |                        |    |                     | 1  |            |    |               |    |              |    |                        | 1  |                       |     |                |    |            |     |                       |    |                  |    |                      |     |                        |    |                       |     |                |     |                |     |                       |    | 1  |   | 2  |   |   |
| 8 Cerebro-spinal fever                             |                        |    |                  |    | 1              | 2   | 1             | 1   |                    |     |                        |    |                     | 1  |            |    |               |    |              |    |                        |    |                       |     |                |    |            |     |                       |    |                  |    |                      |     |                        |    |                       |     |                |     |                |     |                       | 2  |    | 4 | 2  | 1 | 9 |
| 9 Tuberculosis of respiratory system               | 1                      | 2  | 1                |    | 4              | 6   | 21            | 5   | 9                  | 10  | 5                      | 4  | 5                   | 2  |            | 1  | 3             |    | 1            | 2  | 7                      | 3  | 10                    | 11  | 2              | 1  | 10         | 1   | 1                     | 6  | 1                | 2  | 8                    | 5   | 4                      | 3  | 3                     | 2   | 50             | 32  | 46             | 34  | 162                   |    |    |   |    |   |   |
| 10 Other tuberculous diseases                      |                        |    |                  | 1  | 1              |     | 6             |     |                    | 3   | 1                      | 2  |                     |    |            |    |               |    |              |    |                        |    | 2                     | 4   | 1              |    |            | 4   |                       | 1  | 2                |    | 2                    | 2   | 1                      |    |                       |     | 3              | 8   | 10             | 8   | 14                    | 40 |    |   |    |   |   |
| 11 Syphilis  |                        |    |                  |    |                |     |               | 1   |                    |     | 1                      |    |                     |    |            |    |               |    |              |    |                        |    |                       |     |                |    | 1          |     |                       |    |                  |    |                      |     |                        |    |                       |     |                |     |                | 1   | 1                     | 1  |    |   | 3  |   |   |
| 12 General paralysis of the insane, tabes dorsalis |                        |    |                  |    | 1              |     |               |     | 1                  |     |                        |    | 1                   |    |            |    |               |    |              |    |                        |    | 1                     |     |                |    |            |     |                       |    |                  |    |                      |     |                        |    |                       |     |                |     | 3              |     | 1                     |    |    | 4 |    |   |   |
| 13 Cancer  | 5                      | 9  | 2                | 1  | 17             | 15  | 25            | 28  | 28                 | 29  | 10                     | 16 | 10                  | 9  | 1          | 6  | 7             | 8  | 4            | 15 | 14                     | 10 | 29                    | 29  | 5              | 8  | 15         | 32  | 7                     | 6  | 8                | 16 | 10                   | 23  | 11                     | 11 | 16                    | 21  | 109            | 136 | 115            | 156 | 516                   |    |    |   |    |   |   |
| 14 Diabetes  |                        |    | 1                | 1  | 2              | 2   | 1             | 3   | 1                  | 2   | 1                      | 2  | 1                   | 2  |            |    | 2             |    | 1            |    |                        |    | 3                     | 6   | 2              |    |            | 7   | 1                     |    | 3                |    |                      |     | 3                      | 1  | 2                     | 2   | 1              | 9   | 13             | 12  | 19                    | 53 |    |   |    |   |   |
| 15 Cerebral hæmorrhage, &c.                        | 1                      | 3  |                  | 4  | 7              | 8   | 11            | 14  | 7                  | 13  | 4                      | 5  | 1                   | 5  | 4          | 3  | 4             | 4  | 2            | 11 | 6                      | 8  | 7                     | 13  | 6              | 2  | 11         | 17  | 2                     | 4  | 6                | 5  | 9                    | 11  | 1                      | 5  | 2                     | 8   | 41             | 70  | 50             | 73  | 234                   |    |    |   |    |   |   |
| 16 Heart disease                                   | 11                     | 14 | 9                | 7  | 27             | 26  | 38            | 38  | 44                 | 36  | 16                     | 11 | 10                  | 18 | 8          | 5  | 4             | 4  | 16           | 14 | 26                     | 13 | 48                    | 50  | 11             | 9  | 27         | 17  | 8                     | 15 | 8                | 23 | 29                   | 31  | 22                     | 15 | 33                    | 37  | 183            | 173 | 212            | 210 | 718                   |    |    |   |    |   |   |
| 17 Aneurysm  |                        |    |                  |    | 1              | 1   |               |     |                    |     | 1                      |    | 1                   |    |            |    |               |    |              |    |                        |    |                       |     |                |    |            | 1   |                       |    |                  |    |                      |     |                        |    |                       |     |                |     | 1              | 3   | 1                     | 2  | 2  | 8 |    |   |   |
| 18 Other circulatory diseases                      | 4                      | 1  |                  |    | 4              | 4   | 6             | 4   | 10                 | 10  | 2                      | 3  | 1                   | 3  |            | 3  | 1             | 2  | 2            | 2  | 4                      | 3  | 16                    | 15  | 2              | 2  | 4          | 12  | 1                     | 4  | 3                | 4  | 9                    | 14  | 3                      | 1  | 8                     | 11  | 30             | 32  | 50             | 66  | 178                   |    |    |   |    |   |   |
| 19 Bronchitis                                      | 4                      |    | 1                |    | 7              | 8   | 5             | 12  | 8                  | 3   | 2                      | 2  | 3                   | 1  | 2          | 1  | 1             | 2  | 1            | 2  |                        |    | 1                     | 9   | 1              | 3  | 6          | 5   | 2                     | 2  | 7                | 2  | 4                    | 7   | 3                      | 1  | 5                     | 1   | 34             | 31  | 29             | 30  | 124                   |    |    |   |    |   |   |
| 20 Pneumonia (all forms)                           | 4                      | 2  |                  |    | 13             | 6   | 11            | 4   | 4                  | 8   |                        |    | 2                   | 3  | 6          | 2  |               | 5  | 5            | 3  | 6                      | 3  | 11                    | 3   | 1              | 3  | 2          | 4   | 3                     | 5  | 6                | 3  | 6                    | 5   | 2                      |    | 2                     | 5   | 45             | 33  | 39             | 31  | 148                   |    |    |   |    |   |   |
| 21 Other respiratory diseases                      | 1                      |    | 2                |    | 5              | 1   | 1             | 2   | 1                  | 3   |                        |    | 2                   | 1  |            |    |               |    |              | 2  |                        | 6  |                       |     |                | 1  |            |     |                       | 1  | 1                |    |                      |     |                        |    |                       |     |                | 1   | 14             | 8   | 11                    | 6  | 39 |   |    |   |   |
| 22 Peptic ulcer                                    | 1                      |    |                  |    | 5              |     | 2             | 1   |                    |     |                        |    | 2                   |    |            |    |               |    | 1            | 1  | 1                      |    |                       |     |                | 3  | 1          |     |                       |    |                  |    |                      |     |                        |    |                       |     |                |     |                | 1   | 12                    | 4  | 12 | 2 | 30 |   |   |
| 23 Diarrhoea, (under 2 years)                      |                        |    |                  |    |                |     |               | 1   | 3                  | 1   |                        |    |                     | 1  |            |    |               |    |              |    | 1                      |    |                       |     |                | 1  |            |     |                       |    |                  |    |                      |     |                        |    |                       |     |                |     |                |     | 3                     | 3  | 5  |   | 11 |   |   |
| 24 Appendicitis                                    |                        |    |                  |    | 1              |     | 1             | 2   | 1                  |     |                        |    | 2                   |    | 1          |    |               |    |              |    | 2                      |    | 2                     |     |                |    | 1          |     | 1                     |    |                  |    |                      |     |                        |    |                       |     |                |     |                |     | 6                     | 3  | 6  | 5 | 20 |   |   |
| 25 Cirrhosis of liver                              | 1                      |    |                  |    |                |     |               |     | 2                  |     |                        |    |                     |    |            |    |               |    |              |    |                        |    | 1                     |     |                |    |            |     |                       |    |                  |    |                      |     |                        |    |                       |     |                |     |                | 3   |                       | 1  | 1  | 5 |    |   |   |
| 26 Other diseases of liver, etc.                   |                        |    |                  |    | 1              |     |               | 1   | 1                  | 2   | 1                      |    | 1                   |    |            |    |               |    |              |    |                        |    |                       |     |                |    |            |     |                       |    |                  |    |                      |     |                        |    |                       |     |                |     |                |     |                       |    |    |   |    |   |   |





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